

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES.

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Wheat Insects—Joint-Worm.

EDS. CULTIVATOR—The farmers of this county are greatly concerned and dismayed at the ruin of their growing wheat, proceeding from an insect that bears with us, the above designation. It is said that it has been known in your state; but of this I doubt, as I have been a subscriber to your paper for very many years, and have seen no notice of it. I have read in your columns of the grain-worm, (*Tipula tritici*),* and think it probable, as this insect is unknown to us, it may have been hastily confounded with this new enemy, that has but recently appeared among us. To dissipate all doubt on this head, and to appeal to your information and researches, I beg leave to make you acquainted with this most formidable depredator on the wheat crop, through a few samples herewith sent, of the plants so injuriously affected by its depositories.

We frequently find woody fibre diseased, swollen out, and knotted, by the punctures of insects providing a nidus for their young. In the same way, this fly, emerging from the chrysalis state in the dry straw, from the first till the middle of May, deposits through a puncture in the leaf or sheath of the wheat, near the joint, its egg or young. The parts of this succulent texture thus pierced, take on diseased action, become indurated, and firm, as you will perceive, unsightly knots. At one time I supposed that the deposit was made in the stem, or joint; but repeated examinations have satisfied me that the disease was confined to the enveloping husk. If you will carefully and gradually pare away the surface of these knots, you will soon come across the cells formed in the wheat-leaf for the nidus, and discern in them, with the naked eye, the maggot. This examination is more usually made at the time of threshing, in August, when these worms have attained larger size, and more complete life. Then you will find in these hard and rugged excrescences, from four to ten worms to the joint. It hibernates as a chrysalis, and emerges, as I have before said, as a winged insect, about the early part of May, when it commences its fearful ravages on the wheat plants. Whether the worm finds a home in any other plant, I am unable to say; but from its rapid increase, our farmers are disposed to believe that it does.

Its modes of inflicting injury are different, according to the growth of the plant it attacks. If the head has started up out of the boot, it then attacks the husk around the joint next below; a swelling and knot are

* The insect here alluded to, is what is commonly known as "the weevil," or wheat-midge, *Cecidomyia tritici*. EDS.

instantly formed, creating a sort of knee, and toppling the head down at different angles of inclination. At other stages of growth, it deposits near the ground, before the head-stalk appears, and completely prevents its exit. In every case, it operates by a species of strangulation on the plant, and finally starves it out, so that the juices no longer circulate, and the feeble heads dry up and perish. In this way, a wheat-field that is thus preyed upon, presents the appearance of a stunted, pale, decaying sedge, with here and there a few straggling heads of wheat, that, in case of their escape from the rust, would not reward the husbandman for the labor of gathering them.

It is difficult to convey to you a faithful picture of the complete destruction of the wheat crop, in many instances, by this insect. It is vain to think of reaping at all in many fields. The farmer is esteemed fortunate, where this insect has been three years, if he makes his seed and bread.

A friend of mine tells me he first saw this insect in some wheat grown from northern seed, and thought it must have come in some straw brought on with it. This was four years ago. Its first appearance in this county is usually dated not more than three years back. It exists now only in one half of this county, and, as I have been told, in some other counties to the north-east of us. The sphere of its ravages, is, therefore, restricted; but to our utter dismay, it seems to be gradually spreading abroad, at the same time that, instead of passing away from the scenes of its early devastation, it has actually, from year to year, so increased its ravages as to leave its early sufferers without hope for the future.

Your subscribers in this section of the country will be, doubtless, gratified by any information or suggestions you can afford them on the subject of this strange calamity to their great staple—the wheat crop.

I regret that I am not able to furnish you with a description of this insect. It has been hatched out in glass jars, by some of my acquaintances, but they could not give me that definite and minute delineation of it which would be required by the entomologist. They speak of it as a dark-colored gnat, with small wings, some want of activity, and little power of flight. If you are disposed to try experiments with so dangerous an enemy, I would be glad if you would take the trouble of bringing out some of these flies by exposure to strong heat, before their time, and handing them over to some naturalist in your midst, to enlighten us about their history, if they have any, or give us an accurate description of

them. But lest I may be the means of introducing among you the most destructive pest, you will not consider me as recommending these insect acquaintances to your favor or mercy; but on the contrary, invoking for them the most careful and relentless extermination at your hands.

For fear you may not be able to find the maggot and its cell, you will perceive I have, in one or two instances, laid bare the latter, and, doubtless, the carcase of the maggot may be seen in it by the time these plants reach you. Most respectfully, ALEX. RIVES. *Carlton, Albemarle county, Va.*

On receiving the above communication from Mr. RIVES, we sent specimens of the wheat-plant which he forwarded us, to Dr. FITCH, with a request that he would examine them, and furnish such remarks for publication as he might deem proper. He has kindly sent us the following very able paper, which comprises much valuable information in regard to insects which attack wheat, as well as to the "joint-worm" in particular. Eds.

EDITORS CULTIVATOR—I communicate herewith, my notes and observations, on examining the wheat-plant which you received from ALEX. RIVES, Esq., of Albemarle county, Va., containing the insect designated the "joint-worm."

Bugs (Hemiptera) upon growing wheat.—I first observe, lying upon the infested stalk, the insect to which you allude in your letter, as perhaps having been hatched from the joint-worm. It is a small, oval insect with a very flattened body, six-hundredths of an inch long and scarcely half as wide, of a lively blood red color, with a band across its middle above, of a yellowish white color, occupying the two first or basal segments of the abdomen, behind which, in the middle of the back, are two black spots, one behind the other. Its six legs and its beak, or sucker, are of a honey-yellow color, and its horns or antennae have the two basal joints light yellow, and the two terminal ones (which are enlarged, forming an oval, pointed knob) of a dark brown color. No vestiges of wings or wing-cases are discernible. This insect is plainly the young larvæ of some species of bug, of the order Hemiptera, and probably of the genus *Capsus* or *Phytocoris*. It is too immature for me to say anything more definite respecting it. But in this connection I may remark, that I have several times observed the eggs of insects of this family arranged in straight rows upon the leaves, not only of wheat, but of other grains and grasses, and have watched the larvæ coming from these eggs and feeding in their vicinity. These larvæ never have the form of worms, but resemble the perfect insects, except that their wings and wing-cases are not yet developed. They subsist upon the juices of vegetables, which they extract by means of a sucker, in much the same way that the musketoë obtains the blood of man and other animals. When first hatched, they draw their nourishment from the leaf that they are then upon; but as they acquire more size and strength, they wander away and live equally well upon other vegetables. Some of our species (the common squash or pumpkin-vine bug, for instance) seem to prefer plants of one kind, whilst others show no such preferences, but subsist equally well upon a variety of plants. I have frequently noticed, however, that plants that are weakened and

diseased and of puny growth, are much more infested by these *vegetable leeches*, as they may appropriately be called, than those that are healthy and vigorous. The presence of this red bug, therefore, upon the wheat stalk from Virginia, is only accidental, or as a consequence and not a cause of disease. It cannot have been bred from any worm infesting the wheat-plants, as in none of the stages of their existence do insects of this kind have the form of maggots or worms.

The "joint-worm."—The wheat stalk, immediately above the lower joint, in the specimen before me, is obviously diseased for a distance exceeding a half inch. It is swollen to a size a third larger than it is above or below; it is changed to a harder and more wood-like texture; the veins are distorted and crowded out of their natural straight and parallel direction; and several long spots of a paler color and slightly elevated, like blisters, appear. On carefully cutting into these blistered-like elevations, a hollow cavity is found, which is nearly a quarter of an inch long, and tapering to a point at each end. In each of these cavities lies a footless worm or maggot, which is about ten-hundredths of an inch long by four-hundredths broad; of an oval form, rather more tapering posteriorly than towards its head; and divided by slight constrictions into thirteen segments. The worm is soft, shining, of a uniform milk-white color, and on its anterior end is a small V shaped brown line, marking the situation of its mouth. So exactly does this worm in its form and appearance resemble the larvæ of the Hessian-fly and the other species of *Cecidomyia* which have fallen under my examination, that I entertain no doubt that it pertains to the same genus of insects. And when we see it infesting the same part of the wheat-stalk with the Hessian-fly, and producing much the same swollen appearance of the stalk that the Hessian-fly causes, no person but one well acquainted with the habits of that insect would suspect that this was anything different. It is therefore important that the points in which these two insects vary from each other, should be carefully noted, that they may not be confounded with and mistaken for each other.

Differences between the joint-worm and the Hessian-fly.—As far as I am able to ascertain from the single wheat-stalk which chiefly shows disease in the plant before me, this worm differs in its situation and habits from that of the Hessian-fly, in the following particulars.

1st. The Hessian-fly worm occupies a natural cleft or partition in the wheat plant, to wit, between the sheath which is formed by the base of the leaf, and the main or central stalk or culm. Therefore, on drawing the leaf aside so as to part this sheath and separate it from the stalk, when it is stripped off downwards almost to its base, the Hessian-fly worm is exposed to view. This may be done without any cutting or tearing of the plant. The joint-worm, on the other hand, lives in the parenchyma or substance of the sheath, near its base. On separating the sheath from the culm and drawing it aside, the worm is not exposed to view: it lies in the texture that is thus separated, and can only be seen by cutting into the elevated or blistered spot already spoken of, which spots are equally manifest on the inner as they are upon the outer surface of sheath.

2d. The Hessian-fly worm is closely enveloped, its sur-

face being in direct contact with and pressing against the inner surface of the sheath on the one side, and the outer surface of the culm upon the other side. It thus wholly fills the spot where it lies, and has no space for moving in any direction. This worm on the other hand does not fill the cavity in which it lies, its cell being larger and double the length of the worm. In this respect it differs not only from the Hessian-fly, but also from the wheat-midges, but coincides with some of our other species of Cecidomyiæ, the willow gall-fly, for instance, (*C. salicis*) which I described in the first volume of Dr. Emmons' Journal of Agriculture and Science, page 263.

3d. Two, three or more of the Hessian-fly larvæ and pupæ are most commonly found living in direct contact with each other, like a litter of pigs in their nest. This worm, however, is always alone. Though there are five worms in the stalk under examination, each has a cell of his own. They occupy, so to speak, different rooms in the same house, each individual having a room of his own, with no door for his exit or to admit a visit from his kinsmen.

4th. The natural cavity or hollow in the center of the straw, is but little crowded upon, and lessened in size by the larvæ and pupæ of the Hessian-fly. But with this worm, as appears from the single plant under examination, for a distance of over half an inch above the joint, the culm has been so crowded upon and compressed by the swollens heath, that this hollow is entirely obliterated at some points and can be but faintly discerned at others.

5th. The natural texture of the wheat stalk is but little altered by the Hessian-fly larvæ and pupæ. On splitting and cutting the stalk, no evident dissimilarity appears in its substance, between the diseased and the healthy parts. Here, however, the diseased part is of a much more solid and wood-like texture than the unaffected part above it.

Miss Morris' Wheat-midge.—The differences now stated, show conclusively that this cannot be the Hessian-fly worm. Another insect so closely allied to the Hessian-fly as to have been confounded with it, is known to exist in this country; and I avail myself of this opportunity to make some explanations with respect to it. In 1840 and 1841, Miss Margaretta H. Morris, of Germantown, Pa., communicated to the American Philosophical Society and to the Philadelphia Academy of Natural Sciences, sundry observations which she had made upon an insect infesting the wheat crops in her vicinity, which insect she deemed to be the Hessian-fly, and pointed out what she consequently regarded as errors in the previous accounts of this insect. Her observations were extensively noticed in the agricultural journals of the day. In my history of the Hessian-fly, prepared for Dr. Emmons' Journal of Agriculture and Science, and republished in the Transactions of the State Agricultural Society for 1846, I found myself obliged to ignore the statements of Miss Morris, my own observations showing me that the previous accounts respecting the habits of this insect were unquestionably correct. Miss Morris, however, on the appearance of my article, re-affirmed that her observations were also authentic, and called upon me to say what her insect was, if it was not the Hessian-fly. As I had never seen her insect, I of course

could not say what it was. Annually, in the latter part of June, when the wheat is in blossom in this vicinity, a small ash-colored fly, a quarter of an inch long to the tips of its wings, appears upon it in swarms. This fly is so closely allied to the Garden Hylemyia (*Hylemyia hortensis*) of Europe, that I am in doubt whether it is really distinct from that species. When recently captured, and ere it has become at all shrivelled by drying, it has a row of oblong black spots along the middle of its back, instead of a continuous black stripe, which the European species is described as having. This fly had been popularly regarded in this vicinity as being the wheat-midge which produced the little yellow maggots that had for several years committed such appalling havoc in all the wheat crops in this section of the country. And I could only conjecture that possibly Miss Morris had fallen into a similar error, as she lays much stress upon the fact that her insect appears abundantly upon the growing wheat in the month of June, and describes the female as being destitute of fringes to its wings. I was engaged in studying out for publication the habits and transformations of this fly, that I might incidentally thereto make some reply to Miss Morris, when I was much gratified to be released from a task so unpleasant, by observing in the proceedings of the Academy of Natural Science, for August, 1847, a notice from this lady, that she had received specimens of the insect which I had described, and that it was clearly distinct from the one which she had been investigating. In further confirmation of this fact, I may add that Dr. Harris writes me, he has received from Miss Morris specimens of her insect, which are not sufficiently perfect to enable him to define the marks which characterize it, but which show to his satisfaction that it is a species of Cecidomyia different from the Hessian-fly. This point being thus definitely settled, I may remark that much credit is due to Miss Morris for having detected discrepancies and made discoveries which none but a close investigator would have been apt to notice; and that she should have confounded together two insects that are so very similar in their appearance and habits, can detract but little from her reputation. Mistakes more gross than this have in repeated instances been made by the most acute and experienced observers.

Differences between the joint-worm and Miss Morris' wheat-midge.—From the accounts given of her insect by Miss Morris, we are forced to conclude that it too, is different from the joint-worm of Mr. Rives. She throughout represents the larvæ as inhabiting the center of the the straw. We infer from her description that they are not imbedded in the parenchyma of the stalk, but are wholly within the hollow in its center, and that on merely splitting the stalk, they are to be observed adhering to the surface which is thus exposed to view. They moreover occur in all parts of the center of the stalk, from the root upwards, to above the last joint. Now this location is so widely different from that of the joint-worm, and of the larvæ of the Hessian-fly, as already pointed out above, that we must deem Miss Morris' insect to be different from either.

Conclusion.—As the result of this examination then, we arrive at the conclusion that the insect brought to our notice by Mr. Rives, is different from any of those

with which we have hitherto been acquainted. It therefore forms an important addition to our knowledge of the diseases and casualties to which wheat is subject, a good crop of which all our farmers are more proud to grow, than any other which they cultivate.

One step more remains, to render our knowledge of this insect, and the disease which it occasions, so complete that it can be correctly designated and definitely spoken of in all time to come. The fly that will be hatched from these joint-worms requires to be scientifically named and described with such precision that it can be distinguished from the many other species of midges and gall-flies that are now known. This can only be done, by an examination of the living fly—for these insects are so minute, so delicate, and fragile, that dried specimens of them seldom show what their natural appearance and characteristic marks are. Happily, under the present postal regulations, by which our citizens are so greatly accommodated, light articles of this kind can be transmitted speedily, securely, and almost gratuitously, from one extremity of our country to the other. Specimens of insects, and of infested grain, straw, &c., respecting which any one is desirous of information, may readily be enclosed in a goose-quill, or some similar vehicle, and sent in a letter to any person conversant with matters of this kind, for his examination and opinion. It is, perhaps, now too late in the season for Mr. Rives to find any of the larvæ or pupæ of these insects among the stubble of the wheat-fields; but should they re-appear another year, by forwarding us portions of the diseased straw, at intervals, say of one or two weeks, when the worms are approaching the period of their maturity, some of them would be sure of coming to hand in a condition so healthy and advanced, that they would complete their transformations, and yield us living flies, from which a suitable description can be drawn. Should he be able to furnish us with such specimens, he will not only confer a personal favor, but be instrumental, we trust, in making an interesting and substantial addition, both to agricultural and entomological science. Yours truly, ASA FITCH. *Fitch's Point, Salem, N. Y., Aug. 22, 1851.*

AGRICULTURAL RESOURCES OF OHIO.

BY W. G. EDMUNDSON.

When the series of papers on the Agriculture of Ohio was commenced, the writer supposed they would extend through some six or eight numbers of the Cultivator; but circumstances have transpired which make it proper that for the present, at least, this feature of our correspondence should be suspended. The cause for this change may be readily explained, by simply announcing the fact, that a tour through Michigan, Illinois, and Iowa, is contemplated, and some notes by the way-side will afford, doubtless, very agreeable and entertaining subject matter for the readers of the Cultivator. It therefore, may be expected, that a pretty full description of the country bordering on the Upper Mississippi and her tributaries, will be given, embracing the peculiar features of the agriculture of the country through which we may pass, for the purpose of affording the general reader some reliable facts by which he may judge of the com-

parative advantages that are possessed by different sections of those new and flourishing states.

There are many matters of interest connected with the agriculture of Ohio, that deserve an extended notice, but owing to influences already explained, only a mere outline description can be given, and for the convenience of the reader, the remarks will appear under their respective appropriate heads.

SHEEP HUSBANDRY.—This branch of business is yearly on the increase, and is fast becoming a great favorite among the farmers in the older settled portions of the state. The extraordinary high prices paid for wool this season, have produced the conviction on the minds of many, that those rates will continue to be offered in future seasons, and hence almost a mania has been produced among those who possess large flocks of sheep, and in many cases, persons who have heretofore confined their operations to other branches of agriculture, have purchased sheep the present summer, and have seeded down their worn-out lands with the cultivated grasses, for the purpose of affording pasturage for their flocks. The number of sheep in Ohio may be fairly estimated at 4,000,000; these, at a low calculation, yielded a revenue of \$2,500,000. Those who pay much attention in the selection, and are careful in providing their flocks of sheep with good wholesome summer and winter food, have no difficulty in obtaining an average value equal to one dollar per fleece. This, in connection with the increase of lambs, make it a business beyond all comparison, more profitable than any other branch of farming. Some choice flocks of full-blooded French Merino sheep have yielded, on an average, four pounds per fleece, which brought forty-five cents per pound, and in a few instances still better than this was done, though the flocks in the latter instance were not so large, and a portion of them were wethers.

In the eastern counties, those bordering the Ohio river, the full-blooded Saxon sheep may be found in great abundance; and the fineness of the staple of the wool cannot be excelled by any other portion of the Union. It must be admitted by all who have given this matter proper investigation, that Eastern Ohio, as a region for the production of a fine staple of wool, has no competitor on this continent. The soil and climate, and withal the tastes and habits of the rural population, are eminently adapted to produce this result; and if the prices for the finer sorts of wool be at all remunerative in future years, the flocks of sheep throughout all the hilly counties of the state, will be greatly enlarged. This region, embracing some fifteen to twenty counties, is capable of sustaining 10,000,000 sheep, without materially interfering with other products. The more sheep, the more clover the land can be made to produce; and the larger the yield of clover, the greater will be the quantity of wheat the soil is capable of producing. This doctrine is now pretty well understood by many of the old wealthy farmers of Jefferson, Harrison, Belmont, and other eastern counties of Ohio, who have realised large fortunes from their extensive flocks of fine woolled sheep.

Agents from eastern manufacturing establishments passed through all parts of the state during the winter months, and contracted for the fleeces with the farmers, many months before the sheep were shorn, at prices rang-

ing from 30 to 60 cents per lb., and almost invariably paid a considerable portion of the money in advance. One farmer in Licking county, having some 600 head of fine woolled sheep, contracted for his entire clip at 45 cents per lb., and received in the month of January, on the same, *one dollar per fleece* on the contract. These and other influences of a similar character, have raised the expectations of the farmer a good deal higher, in relation to what they expect to realize from their sheep in future years, than can be reasonably obtained. The barbarous system of slaughtering sheep by the thousand, for the pelts, and tallow will be somewhat checked by the upward tendency of wool. In Knox county alone, some 30,000 sheep were slaughtered last autumn, which netted to those engaged in the operation, at least one dollar per head, clear of all expenses. Whilst the sale of those sheep produced a large revenue to the country immediately around those mammoth slaughtering establishments, it produced a direct loss to the owners and the State, from the simple fact that the clip of wool, which was two-thirds produced, would have yielded a larger amount of money than was obtained for the sheep; and besides, the stock, for a similar production in future years, would have been in the hands of the farmers, and the increase of lambs would also have been an additional source of income. Sheep can only be had at present, by offering twice the rates they could be had for last season, and unless a great change for the worse in the wool market should take place, there is no good reason why, in periods of three years at least, the flocks of sheep in Ohio may not be doubled, until the numbers equal at least 20,000,000. The attention of the farmers is strongly directed to the importance of adopting improved systems of culture and farm management, and upon trial this will be found difficult of accomplishing without manure, and the latter can only be produced through the agency of stock, among which stand foremost sheep for enriching thin and worn out lands.

HORNED CATTLE.—The herds of the improved breeds of British horned cattle found in Ohio, are confined almost exclusively to the Short-horns, or Durhams. In no part of the Union can so great a number of pure blooded Short-horns be found as in the Scioto Valley. Herds of from one hundred to three hundred each are frequently met with, that combine all the symmetrical points of the improved Durham breed of cattle, and are unquestionably as free from alloy, or mixture with American stock, as can be met with on any part of this continent. Ohio became stocked with Durhams through the praise worthy exertions of the "*Ohio Company for the Importing of English cattle*," which was organized in the year 1833. Some score or upwards were imported, at the start, of both sexes, and these by judicious crossings have stocked central Ohio especially, with a race of cattle that scarcely have any equal. The genial climate and rich soils that prevail along the whole extent of the Scioto Valley, are conducive to the improvement of horned cattle.

Some 30,000 head of fat cattle are fed and driven to the eastern markets from the Scioto Valley annually, and the average value of each ranges from \$50 to \$60, making the handsome business of nearly \$2,000,000. Other portions of the State also drive a large number of cattle over the mountains yearly, but Ross, Pickaway,

and Madison counties do by far the largest proportion of the business. In some instances from 400 to 600 head are fed by a single farmer and driven to the New-York and Philadelphia markets. The very best quality of clover and permanent pastures are furnished the stock during the summer months, and early in autumn they are turned into corn fields and owing to the openness of the winters require little or no protection, from the snow or frosts, and by the early part of spring are well fattened. The stock for feeding consists almost exclusively of four and five year old steers, which net when in market from 700 to 900 lbs. each, of beef, hide, and tallow. It costs, at a low average, to get a drove of cattle from the Scioto Valley into the New-York market, from \$10 to \$12 per head, without including the loss of flesh sustained by driving, which may safely be calculated at \$10 per head, reckoning beef at \$7.00 per hundred lbs. which is much below the New-York price. When the central Ohio railroad is completed, the business of driving on foot, it is thought, will be rarely practiced, as a gain of from \$5 to \$10 per head will be obtained by transporting the cattle in cars on the railroad. When the three roads are completed, leading to New-York, Philadelphia, and Baltimore, the inducements for stall feeding beef cattle for these markets will be so great that it will doubtless be engaged in on a large scale. Ohio might and doubtless will do a large business of this kind, and when it becomes pretty generally adopted, it will afford an additional evidence of the wisdom of her farmers. The stock of barn-yard and stable manure is quite too limited at present, and when each arable farmer cultivating one hundred acres of land adopts the plan of stall feeding some six or eight six year old bullocks yearly for the Eastern market, then will the feeder become enriched by an abundant annual supply of rich manure, and the crops of grain and grasses will afford ample proof of the wisdom of such a course of farming.

DAIRY BUSINESS.—The north-eastern portion of the state, generally known by the appellation of "The Reserve," and of recent date by that of Cheesedom, is the great dairy district of Ohio, which consists of eight counties, inhabited almost exclusively by New-England people. It would be difficult to reduce any branch of business to a more perfect system, than that practiced by the intelligent farmers of the Reserve in their dairying operations. The cheese is shipped to New-York, Cincinnati, St. Louis, and other large emporiums of trade, and is put up in the very best style for market. Cheese factors purchase the green curd at the rate of from three to four cents per lb., of the farmers, and call at their doors regularly every week-day morning for it, and thus much labor and responsibility is got rid of in curing and marketing the article, and the business, on the whole, is better done than if each farmer pressed and cured the product of his own dairy. A single factor finds no difficulty in manufacturing the curd produced by a thousand cows, and in prosecuting the business to this extent, is warranted in investing a suitable amount of means in the erection of appropriate buildings, and in the purchase of economical appliances for its profitable prosecution. Both farmer and factor appear satisfied that a higher character is given the cheese in the market, and better prices are obtained for it, than if the old system was

practiced. It imparts a uniformity to the appearance and quality of the cheese, throughout a large district of country, that no other plan could have so thoroughly accomplished; and on the whole, the system may with safety be adopted in any part of the union suitable to the production of cheese, where an abundant supply of curd can be obtained at a fair price.

HOG SLAUGHTERING ESTABLISHMENTS.—The farmers in the eastern states can form no idea of the extent of the pork trade of the west, unless they personally inspect the slaughtering establishments that are to be found in Cincinnati, and other large cities. 20,000 are very commonly slaughtered and packed for market in a single season, by one house; and the whole number slaughtered in these establishments annually, west of the Alleghany mountains, average 2,000,000, weighing each 200 lbs. of net pork, of which at least one-fourth are slaughtered in Ohio. The number packed at Cincinnati alone, equal 400,000 head in a single season. During the month of December, the latter city is crowded almost sufficient to produce suffocation, with droves of hogs, and draymen employed in delivering the barrelled pork on board of steamers. Some 1,500 laborers are employed in the business from six to eight weeks, and in many cases it is kept in full operation both day and night, including Sundays, from the beginning to the completion of the season. The Sabbath is not at all regarded by those who are extensively engaged in the pork business, and a stranger spectacle could hardly be presented to a person brought up in a land noted for its steady habits, than to see many of the main business streets of the Queen City of the West, literally crammed with waggons, carts and drays, employed in transporting hogs just from the hands of the butcher, from the slaughtering to the packing house, on the Sabbath. Indeed, this appears to be the great day for bringing up and completing the weeks' work, among the principal pork packers of Cincinnati; and as a very large proportion of the business is done in a densely populated portion of the city, it is not to be wondered at, that disease and pestilence infest these portions of the city to an alarming extent. The filth and dirt, and impure atmosphere, in a large portion of the upper end of the city, can be better imagined than described, all of which are the products of hog slaughtering and packing establishments.

The lowest price that the Ohio farmer can afford to raise and fatten pork, is \$3.50 per 100 lbs. This, in an average of seasons, is obtained, and the past season, as high as \$4.50 per 100 lbs. was paid for a large proportion of the best fattened hogs that found their way into market. If there was any certainty of hogs maintaining those prices, Ohio, without much effort, could supply annually one million that would net each a barrel of pork, which, with the lard, would give an annual revenue to the state of \$10,000,000. At present, great preparations are being made to feed an unusual quantity the approaching season, and the average price throughout the entire summer, for store hogs, has been \$3.50 per 100 lbs. net. The most extensive pork feeders fatten on standing corn, and as slovenly as it may appear, it is the most economical mode that can be employed in the west, where labor is scarce, and the productions of the soil are almost spontaneous.

HORSES.—The stock of horses throughout the state are not quite equal to what may be seen in the best farming districts of New-York. This may be accounted for in two ways—1st, from the fact that but few or no high priced stallions are supported in the state; and 2ndly, the best mares are bought up and driven east, by speculators. The horses are generally of a medium grade and when compared with those commonly seen on the Mohawk valley, would fall in the estimation of good judges, even below mediocrity. The great demand for horses, and the high prices they have brought this and the past season, will speedily bring about a salutary change in this respect. Ohio should stand first on the list among the states, as a producer of fine bred, and high priced horses, and through the agency of its numerous well conducted agricultural societies, doubtless, great changes in this respect will be effected.

As an evidence of the suitableness of the country for the business of rearing horses, one fact will be sufficient to illustrate the point. A respectable and wealthy farmer in Pickaway county, confines his operations almost exclusively to grazing horses and breaking them in for the eastern markets. Directly behind his stately mansion he has a field containing 1200 acres, which he calls his horse pasture. It was originally scrub oak plains and prairie, and a living stream of water passes through its entire length—clumps of trees are here and there left for the purpose of shade, and the whole has been from the first kept in permanent pasture, consisting principally of natural grasses and herds grass, or red-top.

The stock of horses are bought of the farmers in the surrounding country at the age of three and four years old, principally unbroken, and are delivered to the purchaser in the month of November. They are turned into pasture, and are wintered on the grass that is allowed to grow unmolested during the entire months of August, September, and October, which in favorable seasons attains the height of six inches. The snow scarcely ever falls so deep, but that the stock can paw it away with their feet and get sufficient to keep them in high condition. In the spring they are invariably in better condition than in autumn, and early in the month of June, men are employed to break them and sleek them up to drive east. The field is entirely cleared in July, and from that period up to the setting in of winter, no stock of any kind are allowed to roam over the field in question. It need hardly be added that the proprietor of the estate adverted to is accumulating property very fast, and we learned from one of his sons while inspecting the stock, that in an average of seasons each horse netted a profit of fifteen dollars, and besides the and which was naturally a thin soil, was yearly growing more productive and valuable.

The remarks on the agriculture of Ohio might have been greatly extended, but for the present, as has already been intimated, they must be brought to a close. On future occasions, however, we may have reason to make favorable mention of this state, which in point of natural advantages for rural pursuits has scarcely a superior either in America or Europe. Its natural resources are almost boundless, but man has yet much to do in their development.

American Reaping Machines.

The following letter from Mr. JOHNSON, was received by us too late for insertion in our September number, and it was therefore handed over to the editors of the *Evening Journal*, in which paper it was published, but it will be new to many of our readers, who will be much interested in its subject matter. Eds.

LONDON, July 29, 1851.

EDS. CULTIVATOR—On Thursday, the 24th instant, three of the Jurors on Implements proceeded to Mr. MECHI's farm, in Essex, (Tiptree Hall,) about 45 miles from London, to try the American Reaping Machines, and to test the draught of the plows. Col. CHALLONER, of the English department, Baron MARTENS, of Belgium, and myself, were the jurors. This day was selected at the request of Mr. MECHI, who held his annual festival for the examination of his crops, stock, &c. The day proved, as did that for the trial of the plows, one of the favorite days of England—that is, *rain incessantly*. We left here at eight o'clock in the morning, and arrived at Mr. MECHI's about 11 o'clock, and found assembled from one hundred and fifty to two hundred farmers and others, to witness the trial, as well as to examine the farm and its crops and arrangements. Mr. MECHI's wheat was not ripe, but quite green—the crop very heavy upon the ground, and every thing as unfavorable as possible for trying the Reapers. The people present were clamorous for the trial, and the person having HUSSEY's Reaper in charge placed it on the field, and a trial was made with it; but the grain was so green, that it soon clogged the machine, and it passed over without cutting it. This damped, as you may well imagine, the spirits of many who had hoped the trial would have been satisfactory. It was suggested by the other members of the jury, that we had better not try McCORMICK's; but I informed them that the machine was there for the trial, and it must be tried, as I could not consent that the gentlemen present, many of whom had come for the sole purpose of witnessing the trial, should go away with the impression that our Reapers could not do the work promised. McCORMICK's Reaper was accordingly placed to its work, and with a single span of horses, it went through the grain, green as it was, cutting all before it. When I ordered the machine stopped, the crowd around it, who had followed after very closely, were addressed by Mr. MECHI. He said to them: "Gentlemen—here is a triumph for the American Reaping Machine. It has, under all its disadvantages, done its work completely. Now, let us, as Englishmen, show them that we appreciate this contribution to our implements for cheapening our agriculture, and let us give the Americans three hearty English cheers!" They gave them, I assure you, *with a will*; and a fourth with a hip! hip! hurra! The Jurors then required the machine to cut another swath, so that it might be timed, and its powers ascertained. Accordingly, the machine was put in operation again, and cut 74 yards in length in 70 seconds, doing its work first rate, and to the satisfaction of every one present. At this rate it would cut twenty acres per day, during their usual hours of work here. A large number of the farmers present called upon me to express their great gratification at the result under such unfavorable circumstances; and said they considered the result a very

great triumph for the American machine; and that it had fully redeemed everything I had said in relation to its capabilities.

HUSSEY's was afterwards tried upon a clover field and did the work well. A machine made after HUSSEY's, by GARRETT, here, with some alterations, was tried upon a clover field, but would not work. The English machinists will learn, by-and-bye, if they expect to improve American machines, they must learn to work them—until they do that, their attempts to improve will fail, as this did. Another trial will be given when the grain is ripe, probably, for the satisfaction of many who were not present, and who are anxious to see the machines work.

You can hardly imagine how the tone is altered since we have had our implements tried. The "Prairie Ground" is filled with inquirers, and some gentlemen have found out that there are some people who know what they are doing in some other parts of the globe as well as this little Island, where, it is most readily admitted, there are many "clever" people. The McCORMICK machine was put together in the Palace again, and yesterday it had more visitors, I believe, than the "Ko-i-Noor" diamond itself!

The plows were tested by a dynamometer the same day, and the result I will give you hereafter. There was considerable difference in the land, and the subsoil was very tenacious and the average depth was quite large; and the trial not more satisfactory, on the whole, than in our trials heretofore, where, as here, in a half day, *twenty plows or more are tested*.

It is some little consolation, after all the taunts that have been heaped upon our implements, that we have been enabled, measurably at least, to put them in a proper position before the people here; and the orders we are receiving for our plows, as well as the award for our reapers, shows that we have made the people satisfied that our light, cheap implements can do all we promised they would do; and that they are very desirable implements to be used here. And I have not any doubt myself, that a manufactory of American plows here would very soon work a revolution in the implements in use here; but they must be made by our own manufacturers to be successful.

After the trial of the reapers, about 150 gentlemen sat down to a first rate dinner prepared by Mr. MECHI, and did, as you may well suppose, creditable justice to it. We had some of us, at least, worked well in the rain and mud, and bore outward evidence at least, of being *working-men*. Mr. MECHI presided, assisted by LORD EBRINGTON as vice chairman. Several speeches were made. LORD EBRINGTON, in giving the health of the foreign visitors present, remarked that it must have been truly gratifying to their American brethren, to witness the triumphant and complete success of the American reaper, which had done its work under great disadvantage, to the entire satisfaction of all present; and the occasion was one of very deep interest to all present. (Cheers.) He coupled with his remarks, the name of Prince FREDERIC of Holstein—who replied on behalf of the guests, in a very neat speech—and concluded with the health of Mr. MECHI, who responded in a straight forward speech that drew forth rounds of applause. In

allusion to the reaping machine, Mr. MECHI remarked that we had to-day received from our American brethren, descendants of this country, the American reaper, which had been entirely successful. It was a fact worth remembering, that they had sent here a reaping machine that would *cut all the grain in England*; and this had been in operation in the United States seven years, and but for the Great Exhibition in progress, would have remained unknown to the farmers of Great Britain. It was a boon of no ordinary value, and was undoubtedly one of the most important improvements introduced into this country, to cheapen the production of food. Several other speeches were made, and the company separated, after the labors of the day, well satisfied with what they had seen, and rejoicing in the result of the trials made. When the reapers were on trial, and the first one was breaking down the fine grain, Mr. MECHI was appealed to to have the trial arrested, as it was doing so much damage to his grain. His answer deserves to be written in letters of gold, for the benefit of every friend to improvement in agriculture, as well as for those who believe money is the only thing to be worshipped. He replied: "Gentlemen, this is a great experiment on trial for the benefit of my country—and if necessary to carry it out successfully, *take my seventy acres of wheat!* Individual interest must ever give way to the settlement of a great principle."

I shall furnish you, as soon as I have leisure, with a full account of Mr. MECHI's farm, its management, and what, in my judgment, is the complete success of his experiment: the reclaiming of a poor, hard and stubborn soil, and the production of as fine crops as I have seen in England, taking his whole farm together.

Mr. T. BELL, C. B. MILLER, Esq. of Peterboro', the excellent secretary of the Madison County Society, and myself, were the only Americans present; the day being so very unpleasant, prevented several gentlemen from attending, who had expected to have been with us.

FARMING OF THE EARL OF LEICESTER.—Mr. BELL and myself left about 8 o'clock, and proceeded to Norwich, in Norfolk, about 80 miles distant, the same evening; and the next morning proceeded Holkham, about 32 miles from Norwich, the seat of the Earl of Leicester, and examined his fine Devon stock, his farm buildings, and farm. The stock was not so extensive as I had anticipated, though there were some very fine animals. He had six or eight beasts fattening for the Smithfield Show, that were very fine, and will prove, I imagine, severe competitors for the Short-horns and Herefords.

Twelve fine yoke of Devon oxen are employed on the farms, and their quick elastic tread was a subject of admiration, when compared with the heavy, loggy tread of the English cart horse, to be met with in the north of England, and in some of the middle counties. Mr. KEARY, the bailiff of the Earl of L., was absent, so that we had not the privilege of seeing him, as we desired and expected.

The crops of wheat, barley, and oats, in Norfolk are remarkably fine. In fact, taking a district of 10 miles, through which we passed by different routes, I have never seen such uniform heavy fields of wheat and barley. The lots here are very much larger than is common in this country; and the system of farming is what

is called here high farming. The common rotation of crops in Norfolk is:—1. Turnips, with manure; 2. Barley, with manure; 3. Clover or Beans; 4. Wheat, with manure, (special.)

The turneps are fed off on the field. On the Clover ley they manure with barn-yard manure and marl; the marl giving a better stand for the wheat. We saw the fields preparing for the crop of wheat. The clover is sown with the barley and mowed once. We saw at the Earl of Leicester's, the Mangel Wurzel fresh as when pulled from the ground. They place them in the autumn in rows, about three feet high, three or four feet at the bottom, and cover with straw, and take them out as wanted. They were feeding some South Down and cross sheep for market with these and oil cake, and they were in capital condition. There are 1,000 to 1,500 sheep constantly on the farm, and they are sending them off to market regularly, and replace by purchase from the north. The fat cattle are in covered stalls, or rather yards, as they have abundance of room, well littered, with water and salt before them; and they are fed with oil cake, mangel wurzel, cut too fine, I think, and they feed them what they will eat.

The fixtures at the Earl of Leicester's are excellent, and everything about the establishment shows the greatest care, to the very smallest minutæ of the farm. They were threshing their wheat with a first rate portable steam engine, and the amount of work performed by it was very large.

Two English gentlemen, whom we met on our return to Norwich, informed us that the use of rape cake has proved entirely successful in arresting the ravages of the wire-worm in the turnep crop. They burrow themselves in the rape and that is the end of their labors.

After leaving Norfolk I took a day at Ipswich, at Ransom & May's great plow and engine establishment, and it is one of the most complete, as it is one of the most extensive establishments in this country. *Nine hundred men* are constantly employed. While I was there, five steam engines were being shipped for Lord Drombrieski, of Russia, for his gold and copper mines in Siberia, and a large lot of plows for Valparaiso; but I have not space or time to give a description of this establishment, which I intend to do in full hereafter.

I visited a number of farms in Suffolk, where they have good farmers, but their land is not equal to Norfolk and their crops lighter. The Suffolk polled cows are altogether used for the dairy—they are very excellent milkers and a valuable breed. The Suffolk Punch horse is here found in great perfection, and they are the best breed of work horses I have seen. The horses are large, but clean limbed, good travelers, and very valuable. There are worth from £30 to £60. But I must close. Yours truly, B. P. JOHNSON.

SOWING WHEAT THICK.—The Michigan Farmer informs us that Gen. Williams, of Lima, in that State, has been in the practice of sowing two bushels of wheat to the acre, the effect of which is small straw, always bright, rarely or never liable to rust, and increased product—and that others had observed a similar result.

ANSWERS TO INQUIRIES.

BUGS ON VINES.—F. P., Lansingburgh, N. Y. There are several kinds of bugs which prey on vines—such as melons, cucumbers, squashes and pumpkins. The two species, however, which are most destructive, are the “yellow-striped bug,” (*Galeruca vittata*.) and the “pumpkin” or “squash bug,” (*Coreus tristis*.) The former will eat any of the plants mentioned, while they are in the first or seed-leaf, though it appears to prefer cucumbers and melons. The latter is more frequently, and indeed almost wholly, confined to squashes and pumpkins. As to means of protection for vines, boxes with cheap netting fastened over the tops, have been used to advantage while the plants are small, and it is in this stage they are most liable to injury. But it is well to examine the plants early, every morning, till they begin to run, fairly, and kill all the bugs, which at that time will be found mostly around the stem of the plant. The squash-bug continues its ravages through the summer, rearing successive broods of young, which feed on the vines. The only effectual way known to us of preventing their destructive course, is to regularly hunt and destroy them. The eggs are deposited in clusters on the under side of the leaves, and are of a bright yellow color, which makes them easily seen, and that part of the leaf to which they are attached, may be plucked off, which will usually prevent the eggs from hatching, but to make this sure, they may be rubbed in the earth by the foot.

PLANTING HEDGES.—C. E. R., Scipio, N. Y. The seeds of the Buckthorn and other thorns, may be planted in the fall. (See Cultivator for 1850, pp. 67-69.)

RAISING EVERGREENS FROM SEED.—INQUIRER, Providence, R. I. The seeds of the pine and most evergreens should be gathered in the fall. The cones, which contain the seeds of the pine may be collected about the last of October, and by being laid on a floor in a dry room, will open so that the seeds will drop out, in the course of the winter. If it is designed to raise plantations of pines, prepare the land in spring by plowing, and the seed may be sown in rows eight feet apart, either by a seed-drill, or by making shallow furrows and dropping the seed by hand and covering it with the hoe or plow. Squirrels and mice are very fond of the seeds, and if the cones are not gathered as soon as they fall, the seed will be likely to be carried off by these animals.

GAPES IN CHICKENS.—C. R., Butternuts, N. Y. There is good reason to believe that this complaint is caused by a parasitic worm in the wind-pipe of the fowl. A successful remedy has in some instances been applied by extracting the worms. This has been done by taking a quill from a hen's wing, and trimming off the feathers to within about half an inch of the centre, pointed at the bottom. This was put down the wind-pipe, and twisted round, by which operation, some of the worms were drawn out, and others so loosened that they were coughed up by the fowl. See Cultivator for 1844, p. 305.

DRAINS OF WOOD.—T. S. E., Salem City, Oregon. If you can get neither tiles nor stones, you will probably find pitch-pine boards the best substitute. Take

inch boards, ten feet in length, and eight inches wide. If the bottom of the drain is soft, one board should be laid on the bottom, and two others placed edgewise on this, leaning together at their upper edges. A drain may thus be formed, which in a tenacious soil will last many years, and will do much good.

GRASS FOR WOODS PASTURE.—L. M. M., Va. Sow Kentucky Blue-grass—*Poa pratense*—a bushel of seed to the acre. You can probably obtain it in Baltimore or Richmond.

NEW PUBLICATIONS.

A MUCK MANUAL FOR FARMERS.—By SAMUEL L. DANA. Third edition, revised and enlarged. Lowell: JAMES P. WALKER.

Dr. DANA's “Muck Manual” has done the farming interest good service. It has been for sometime out of print, and we are glad that he has provided a new and enlarged edition. We presume, (though we have not critically examined the work,) that the author has improved it by such lights as the progressive knowledge of chemistry has been able to impart in regard to the composition of soils and the food of plants. We have no hesitation in recommending the work to farmers as one of a useful character, and from which many suggestions may be obtained that will aid the profits of their labors.

“FRESH GLEANINGS” AND “REVERIES OF A BACHELOR.”—Our old friend and correspondent, DONALD G. MITCHELL, has favored us with his “FRESH GLEANINGS” from abroad, and his “BACHELOR REVERIES” at home. As testimonials of regard we prize them, but more for their real merit. No person, be he sage or youth, can read the simple, earnest language of that portraiture of meditative hours, without finding something to remind him of his own peculiar, and, as he had always supposed, unknown thoughts. The author will be claimed as a friend by all who peruse his reveries, and many will leave his companionship “happier and holier” men. We bespeak for I. K. MARVEL the attention of those who enjoy the retrospect of youthful days, and would be pleased with the autobiography of what Carlyle would call a “beautiful soul.” We hope to hear from him as soon as leisure will permit.

LOSSING'S PICTORIAL FIELD-BOOK OF THE REVOLUTION.—We have received No. 16 of this interesting and beautiful work. It abounds, as former numbers have done, with original illustrations sketched by Mr. LOSSING, and which are executed in a style not surpassed by any work of the day. We have said before, (what may with propriety be repeated,) that this work ought to be in every family in the United States. Published by HARPER & BROTHERS, New-York.

HARPER'S NEW MONTHLY MAGAZINE.—The September number contains a continuation of the biography of Bonaparte, by JOHN S. C. ABBOTT. This article has six spirited illustrations. The next is an article, on the Treason of Arnold, by BENSON J. LOSSING, with sixteen illustrations. The number contains the usual amount of interesting reading. Published by HARPER & BROTHERS, New-York, at \$3 a year.

Notes of a Tour in Europe---No. 2.

EDS. CULTIVATOR—We spent one day looking over the city of Madrid, while our courier was getting our passports viséd, preparatory to leaving the country. This has to be done, as well to leave as to enter. This passport system is a very great annoyance, which every one will find out soon enough who travels in countries where they are required. My passports cost me considerable money, besides several days delay. It would have taken two days to have got them through the different offices, if our Minister had not interfered. By his assistance we were enabled to get them through in one day. The fees were between three and four dollars. Madrid is full of soldiers, like all other places where royalty is supported. To go through the Palace and Queen's stables, and see the enormous amount of money it takes to support royalty, and then consider that this vast amount of money comes from the pockets of the poor people, and then to contrast these with our plain republican institutions, must lead one, I think, to detest such governments, and lead him to appreciate and love his own.

Through the politeness of our Minister, (who accompanied us,) we were admitted to see the Queen's stables. We went first, partly through the carriage houses where we examined as many as 50; they were for different uses and times; some are private carriages, others for travelling, others for hunting, and others riding in state on different occasions; one which they showed us, they said cost eighty thousand dollars. We next visited the stables. I should judge there were 100 horses in them. They were for different purposes—for the carriage, hunting, riding, and for racing. They were nothing more than a middling lot, take them together. There were some very good animals, some English, a few Arabian, but mostly a mixed breed. I saw some fine mules in Madrid, and some in the teams in the north part of Spain, very large and strong. As a general thing the mules are quite small. They feed these horses and mules, as far as I could learn, wholly on cut straw and barley, dry—the barley without grinding.

We started from Madrid 21st of March, five o'clock in the morning, on our return to France; came back the same way we went—arrived at Paris the 26th, at nine o'clock in the evening—stopped one night on the way. We were gone from Paris 22 days; I never saw as great a change in the looks of a country, as there was in France while we were gone. There had been a good deal of rain, and grain had come up, and the grass had started and looked very green and fine.

We now concluded to shape our course for Stuttgart, Germany, where Charles L. Fleischman, Esq., resides, as American Consul, wishing to secure his services, as his intimate knowledge of the country and the different flocks of sheep, would make them valuable. We went from Paris to Strasburgh, a strongly fortified town on the Rhine. We went part of the way by railroad, and the rest by diligence. We were two nights and one day on the road, therefore it did not give us a very good opportunity to see the country; what I saw was hilly and poor.

We crossed the Rhine on a bridge of boats. The river was very high at the time, the country on the Rhine

being much under water, but the land must be very rich and fine. We crossed from Strasburgh to Kehl, from Kehl to Carlsruhe by railroad, which runs along on the borders of the Rhine, from Carlsruhe to Stuttgart by stage coach. It takes about 12 hours from Carlsruhe to Stuttgart. There is a good deal of orcharding in the south part of Germany; there is generally a row of apple trees on each side of the highway. The land is all occupied; the hill sides are generally terraced and planted to grape-vines. Every few rods there are stone steps from the bottom to the top. The way they manure the vines, is to haul manure and leave it at the bottom of the hill, in piles; it is then carried up these steps by men. I saw a good many at work at it.

We had the good luck to find Mr. Fleischman at home, and he was very ready to do anything to benefit an American. His attachments for this country are very strong. I found him very much engaged in getting up a work on cattle—a work which I think must be very valuable. He has drawings of the different kinds of cattle and descriptions of them, as to their value for different purposes—for beef, milking qualities, oxen, &c., and the adaptation of different breeds to different locations, a subject that is much better understood and practiced upon in some parts of Europe, than it is in this country. I noticed this particularly in England. In the poor parts you will see the South-Down sheep; where the land is of medium quality, you will find a mixture between the South-Downs and Leicesters; in the rich parts, the Leicesters.

Mr. Fleischman was very busy, and hardly knew how to leave, but to accommodate us and benefit his adopted country, he consented to accompany us through Germany. We first paid a visit to the Agricultural School at Hohenheim, said to be one of the best in Germany. We were very kindly received and accompanied through the establishment by one of the professors. The students are taught agriculture, both scientifically and practically. We found them out at work on the highway. We found everything well arranged. The stock is all housed, and the farmers are as careful to save the urine as any part of the manure. The stables for the cattle are all arranged with gutters to carry the liquid into cisterns. They have some very good cattle, but nothing superior. The sheep are mostly fine woolled, small, and light fleeced. They have wool on cards from every sheep of every year since they commenced, which shows a great improvement in the quality. They have large quantities of samples from different parts of the country. They have all kinds of grain, seeds, and all kinds of farming implements. They have shops for the manufacture of all kinds of farming tools, carts, waggons, &c. The plows which they manufacture are of lighter and better patterns than any I saw in Europe, except in England. They have a large cabinet of minerals, also the skins of animals and birds stuffed, and most kinds of insects preserved, and the bones of most kinds of domestic animals. They have several professors who give lectures on farming, and the treatment of animals in sickness, and health.

The country around Stuttgart is in a high state of cultivation. We started from Stuttgart March 2d, to go north, as Mr. Fleischman informed us we must, to find

such sheep as we were in search of. There are but few sheep in the southern part of Germany, and those not fine. We went into Saxony before we stopped to look. We went most of the way by railroad; found good railroads, and very carefully managed. As a general thing, they run cars slower than they do in this country. They have watchmen stationed at short distances from each other, to see that the track is kept clear. On some of the roads, they have four classes of cars. The first is fitted up in fine style, and is dear; but few ride in them; the saying has been used, I believe, that "none but princes and fools ride in them." The 2d are good cars, generally have spring seats; the 3d are comfortable. More so, probably, in the 3d, than any other class. On some of the roads they have a fourth still, where the villages are thick. These are to accommodate the poor people that wish to travel from one village to another. They have no seats; they crowd them in thick, like cattle.

After we got into Saxony, we stopped and began to take excursions into the different parts of the country; found some good Saxon sheep; better than any I ever saw in this country. But we found nothing that would answer our purpose; there were two great faults in them—feeble constitution and light fleece. But there has been a change in some of these flocks in a few years past, in their manner of breeding. They are now breeding for folds of the skin. There is marked difference in every year's crop for the last five years. Those that are five or six years old, are smooth, tight-skinned, while many of the young sheep are covered in folds from the nose to the tail. The wool upon these folds is as fine as on the other parts of the body.

The stables for the sheep are built of brick or stone, are very warm. They are high between joints, as near as I could judge, from 12 to 15 feet; the sheep are kept very close in them, and the breath from the sheep makes them very warm—many of them so warm that it was uncomfortable to go into them; although it was quite cold at the time. The stables are not well arranged for convenience; there is but very little room in the upper loft for storing fodder. The fodder for the sheep is generally stowed in a barn on one side of the yard. Very little attention is paid in Europe to the construction of anything for labor saving. The sheep establishments are generally built in the form of a square; the stables for the stock on two sides; the barns for storing fodder on one, and the dwellings for the sheep-master and his assistants occupy the other. There are some very fine stables for sheep, that cost large sums of money. As a general thing, they keep their sheep very poor. Through Germany they feed large quantities of straw, not much grain, but a good many roots.

After looking at several of the best establishments and flocks in Saxony, we went on into Prussian Silesia, as Mr. Fleischman said that would be the place where we should find such sheep as we were looking for. We went as far east as Breslau. Breslau is the greatest wool market in Europe. The system they have adopted has proved very advantageous to them, and I think it would be useful in this country, if practiced. The wool dealers buy the wool from the grower; then each fleece is sorted into different parts according to its quality, which enables the manufacturer to get just the kind of wool

he wants. They say it has proved profitable both to the dealer and manufacturer.

We went over Silesia pretty generally, but found only one flock that came up to what we were looking for. We bought from that flock 40 ewes, which were all that we could get at any price. The sheep which this flock was raised from, were imported from Spain in 1811—were of the Infantado and Nigretta stock. They have been kept pure, and bred with great care. They have always had two things uppermost—constitution and weight of fleece. These sheep have more good points than any that I have ever met with before. They are clothed in wool from the nose to the hoof. The wool is thickly set, and an even surface. They possess what all good breeders in Germany consider very essential—a perfect wool staple. The wool hair being of the same size all the way—the wool as shick on the out end as it is near the body. They are very careful about keeping up the thickness of the wool, in order to get the greatest weight of fleece. They prefer wool about the medium length. If they get it too long it becomes thick and flabby, parts on the back, and they lose in weight. They say it is much easier to get length than it is to retain thickness. The sheep will shear as much according to the weight of carcase, I am sure, as any sheep I ever saw. There is no waste space on them, and the wool is quite fine for Merino, and very thickly set. The wool is very clean and white on the inside, but quite dark on the outer ends.

Men take care of the sheep, and women take care of the cattle. The time we were there, they were preparing the land for spring crops. There were as many women at work in the fields, as men. They were spading the ground. Half the land, as near as I could judge, that they cultivate, is spaded, and mostly done by women. I have seen, sometimes, as many as 20 in one company, spading. They bring most kinds of domestic animals into requisition to help them do their work, and couple them together in a very incongruous manner, perhaps an ox and a cow, horse and cow, donkey and cow, man and donkey, harnessed together to work in the fields.

In Saxony and Silesia I saw very little wheat, but large fields of rye. Very little wheat bread is eaten in Germany. The poor people live principally on soup and bread, made of rye ground up without bolting, and beer. They will have their beer if nothing else. It is astonishing what quantities of beer are drunk. They are truly, as has been said, a nation of beer drinkers. Almost every estate has a brewery and wind-mill attached.

If it was not for the currency, I would like travelling in Germany better than any other part of the continent. Every little state has a different currency, and different coins, and what you get in one, often will not pass in the adjoining one. The people are very kind and hospitable, and appear very honest. In general, I found excellent hotels, good attention, and much cheaper bills, than in any other part of Europe that I visited.

We brought our sheep 400 miles by railroad, to Bremen, where we shipped them on board the steamship Herman. We were 19 days from Bremen to New-York—lay three days at Southampton, England. While stopping there, I took an excursion into Devonshire, to

see some of the noted stock of that county. They certainly have some fine stock—that is, cattle and coarse woolled sheep. I purchased two from Mr. Turner—a six-year-old cow and two-year-old heifer. Mr. Turner is one of the best breeders in England.

I was disappointed in the horses that I saw in England. They were too slim, light of limb, small round the waist, with too much of the blood of the race-horse in them for endurance. But two of the best mares I saw while in Europe were from England. They were at Von Thae's (a son of the celebrated agriculturist of Germany.) He imported them for breeding. They have some good business-horses in Germany.

In conclusion I would say to those who have good Merino sheep, that they have nothing to fear from Europe, as they have but few Merinos, and what they have are worth more there than here. In general, choice animals are worth more there than here; they have learned to appreciate the value of them. I believe I have looked the sheep countries over pretty thoroughly. My instructions from Messrs. Hammond, Hall, and Remlee, who were associated with me in the enterprise, were not to spare time and money in looking, and if I could find any better sheep than we had here, to buy. Those instructions I endeavored to carry out. Yours, W. R. SANFORD. *Orwell, Vermont, August 1st, 1851.*

Comparative Analyses of Soils.

ANALYTICAL LABORATORY, YALE COLLEGE, }
New-Haven, Conn., Aug. 25, 1851. }

MESSRS. EDITORS—At the recent meeting of the American Association for the Advancement of Science, held in your city, I brought forward a number of papers embodying results obtained in my laboratory during the past year. Some of these are very interesting to the agriculturist, and in the present and one or two succeeding letters, I propose to give a short account of them. By the aid of Mr. Crane, my first assistant, I have made within a few months, some examinations into the nature of the results to be obtained, by analysing soils in such a way, and from such localities, as to institute direct comparisons in their composition.

One of the first points taken up, for instance, was to ascertain how near to the average constitution of a field we should get, by analysing samples taken respectively from different parts of its surface. It has been urged by many, in view of the small quantity employed for analysis by the chemist, that such a quantity could not represent the composition of the whole soil. To test the value of this objection, I had two samples of soil taken, one from each end of a six acre lot. This soil has been formed by the decomposition of a basalt or trap rock, and is of a red color. It is in the town of Farmington, State of Connecticut. By way of still farther comparison, another soil formed from the same rock, was obtained from a hill side not more than a quarter of a mile distant, and finally still another, from a point about equidistant between the two, where a red sandstone slate rock or shale appeared upon the surface. The following table therefore affords us ground for several useful comparisons:

| Amount in 100 lbs. or per cent- age of | Basaltic or trap-soil Farmington. | | Red shale soil. | |
|---|-----------------------------------|--------|-----------------|--------|
| | No. 1. | No. 2. | No. 3. | No. 4. |
| Alumina and iron,..... | 10.88 | 9.51 | 8.65 | 15.34 |
| Lime,..... | 0.25 | 0.31 | 0.22 | 0.07 |
| Magnesia,..... | 0.77 | 0.87 | 0.72 | 1.73 |
| Sulphates of potash and soda,... | 0.70 | 1.12 | 0.72 | 2.93 |
| Soluble silica,..... | 0.24 | 0.17 | 0.13 | 0.12 |
| Insoluble matter,..... | 82.58 | 81.68 | 82.07 | 75.89 |

Of the trap-soils, Nos. 2 and 3 are taken from different parts of the same field as described above, and it will be seen at once that they bear each other a striking resemblance. There is in no case a difference of one per cent between any two of the constituents, and in most instances they really correspond very closely; as in the two derminations of lime, where in 100 lbs. of soil, there is only a variation amounting to 9-100 of 1 lb. In the magnesia the difference is but 5-100, and in the soluble silica still less, only 4-100. If now we look also at the first column, we see that in the first line, there is shown to be more iron and alumina than in the other cases, owing to a small additional quantity having been dissolved by acid. With this exception, the other substances agree quite closely with those in Nos. 2 and 3. The three examples then show that these trap soils have a character of their own, that they correspond with each other in the main, and are in many points even almost identical, whether taken from the same field, or from somewhat distant localities. This point settled, let us turn our attention for a moment to the red shale soil No. 4, which it will be remembered, came from between No. 1 and Nos. 2 and 3.

Here we are at once able to perceive a most decided difference. The quantity of iron and alumina is nearly 5 per cent greater than in No. 1, where it is largest among the other three, while that of lime is less than $\frac{1}{4}$ of what is found in any of the others. Magnesia on the other hand, amounted to fully twice, and potash and soda to three or four times as much, as in any other case. In soluble silica there is no very striking difference. Here, then, from the relative position of these soils, we have quite a remarkable instance, and one which pointed out very distinctly the benefit of analysis. These soils, lying so near together, vary in most important particulars; under long cultivation, with any especial crop, they would be exhausted in different degrees. The table also shows by its comparison of the three trap soils, that their character is the same, and that a fair sample made by mixing small quantities from different parts of a field, would give a reliable average result.

I will add another instance in support of this assertion; that soils from the same rock agree pretty closely. In the following tables, Nos. 1 and 2 are specimens of stiff blue clay, taken at considerable distances apart, on a hill-side near Albany. No. 3 was a white laminated clay, also quite stiff, coming from a lower layer in the same neighborhood.

| Per centage of | ALBANY CLAYS. | | |
|------------------------|---------------|--------------|---------------|
| | No. 1, blue. | No. 2, blue. | No. 3, white. |
| Iron and alumina,.... | 13.32 | 13.76 | 17.01 |
| Lime,..... | 4.87 | 4.83 | 4.31 |
| Magnesia,..... | 2.47 | 2.69 | 2.71 |
| Potash and soda,..... | 3.67 | 3.16 | 4.80 |
| Soluble silica,..... | 1.68 | 1.19 | 0.47 |
| Insoluble matter,..... | 70.40 | 69.16 | 67.63 |

The agreement between Nos. 1 and 2, of these clays,

is even more decisive than was seen between the trap soils of the first table. The determinations, in fact, run so closely together, that many of them might be taken for corresponding ones on the same specimen; the differences between the lime, magnesia, alkalis and soluble silica, do not in either case exceed the half of one per cent. The white clay, too, does not vary so much from the other two as might have been naturally expected, from its very different appearance. A considerably larger quantity of iron and alumina is dissolved, but this is the only very essential difference. The lime and magnesia are nearly the same, and the general coincidence is such as to bring the three soils distinctly within the same class.

Another example of well marked characters in soils, is to be found in two from the vicinity of New-Haven, analyses of which are herewith given. These soils were upon the extensive deposit of sand and gravel drift which fills up many of the valleys in Connecticut and Massachusetts, forming light, and in most cases, rather poor soil. One of these was from a field actually worn out by cultivation, and the other taken from a bank at some distance beneath the surface; the intention being to ascertain if cultivation had not reduced the surface to the same condition as the unaltered subsoil.

SANDY SOILS, NEW-HAVEN.

| | No. 1, worn out. | No. 2, native. |
|-------------------------|------------------|----------------|
| Iron and alumina, | 6.66 | 5.12 |
| Lime, | 0.10 | 0.08 |
| Magnesia, | 0.35 | 0.28 |
| Potash and soda, | 6.38 | 0.45 |
| Soluble silica, | 0.34 | 0.26 |
| Insoluble matter, | 90.46 | 91.87 |

These analyses are quite interesting, from the fact that they show a surface soil so perfectly worn out by a miserable system of cultivation, as to be scarcely better in any respect, and in one or two *actually inferior*, to a sample taken from the center of a sand bank. A man who can farm his land no better than this, can lay no claim whatever to a true understanding of his business; he has been short-sighted for himself, and for those who are to succeed him. This soil originally light, needed brining up in place of exhausting, needed constant watchfulness lest its scanty stores should fail. A soil formed from serpentine and chlorite rocks, found in the immediate vicinity of these sands, gave quantities of magnesia and lime greatly larger than those cited above, showing it to possess a widely different character. The results were incomplete, and are therefore not inserted here.

The above are not intended as examples of complete analyses, but have been carried only so far as would serve to illustrate the object for which they were intended. No determinations were made of phosphates, sulphates, or chlorides, excepting as they are included with the alkalis. Such determinations would have given additional interest to the results, but were not indispensable, and would have involved great additional labor.

These analyses prove very satisfactorily, some of the ideas which I had previously entertained; indeed it is necessary to say that my success was more decided than I had expected. The general agreement between the samples from the same field, and between those from the same formation, is as marked as the decided disagree-

ment, when we come to compare these with those from any other formation; even a very inexperienced eye, could scarcely fail to note these points.

We may conclude then, first, that so far as these results go toward forming a rule, the soil from the same field, unless there is some marked and visible change in certain parts, will agree in composition, and that a sample taken from a mixture of five or six shovel-fulls from various parts of the field, would afford a reliable mean result. We may in the second place, feel quite certain that when no disturbing causes have operated, the soil from one formation will show marked differences, when its composition is compared with that from another formation. The analyses given establish these two points, and also show in the two last instances, that land may be reduced nearly to a desert by unskilful cultivation. They lead the way, moreover, to some further illustrations and remarks on this subject of soil analyses; but these I must, from want of space, defer until my next letter. Yours sincerely, JOHN P. NORTON.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Culture of Fruits---Familiar Hints.

It is not necessary, at the present time, when almost everybody is planting fruit trees, to go into a long argument to show its advantages. A continued and most convincing proof is furnished by the fruit itself,—whether it be from the single loaded plum or apricot tree in the pinched up kitchen yard of the townsman,—or the broad orchard bending under the myriads of delicious specimens on the spacious grounds of the farmer.

But an inquiry is made—much oftener than it is rightly answered—"how shall we manage our young trees, from the moment they are received from the nursery, so that they may speedily come into profitable bearing?"—or, "how long will my young trees have to grow before I shall get fruit from them?"

As the time required for their fruiting depends very greatly on their management; while the quality, even more than the amount yielded, is influenced by the treatment they receive, it is well worth some pains and labor to give them every advantage.

Is it not strange, that while every man knows so perfectly well that half-starved cattle cannot possibly thrive, so many expect young fruit trees not only to thrive and grow, but to yield good crops, when not receiving even a tenth part of the attention that is bestowed on a half-neglected herd of cattle? Crowded, in the first place, into small holes, dug into hard soil; and afterwards suffered to be overgrown and choked by weeds and grass, they are quite sure to refuse the injustice of re-paying with a good crop, such negligence, not to say utter starvation at the roots. It is not difficult to see plenty of just such trees, of the apple, for instance, in passing through some parts of the country, of which the annexed portraits are tolerably fair representations. (Fig. 1.) Now, it is nothing whatever but this neglect that has reduced them to such a condition;—with good cultivation, they might have been just such healthy, vigorous, handsome, prolific specimens as these below, (Fig. 2,) which



Fig. 1.

happily are becoming more and more common every succeeding year.

In reply to the inquiry as to the best treatment for trees,—The first thing is to get a good soil. To set good trees on bad land, is like building a house without a foundation, or like sitting down to dine at empty dishes; there is nothing to support the growth of the tree—no food to supply it with proper nourishment. If, therefore, the soil is not already such as to yield a crop of sixty or seventy bushels of Indian corn per acre, it should be made so, if trees are expected to flourish in the finest manner. The first thing is to obtain sufficient *depth* of soil,—to enable the roots to extend themselves freely,



Fig. 2.

and to hold moisture without drying up in protracted drouths. This may be obtained by digging very large holes, say eight feet in diameter, and a foot and a half deep, and filling them with rich earth. But a better way is to plow the whole surface to that depth, and to enrich it well by manuring. A common plow will descend six or seven inches; by passing another plow in the furrow, that is by trench-plowing, the soil may be loosened to ten inches or a foot. But by means of a good subsoil plow in the common furrow, a depth of fifteen to eighteen inches may be attained. Now, to work the manure down to that depth, and make the whole one broad deep bed of the richest soil, it must be first spread on the surface evenly after the whole has been well subsoiled, then harrowed to break it fine and mix it with the top soil, and then thrown down by a thorough trench-plowing.

For although the trench-plowing can hardly be worked a foot in depth of itself, yet after a good loosening with the subsoil plow, it may be at once extended down a foot and a half. If this is done in the fall, and another good plowing given in spring, the whole will be in fine condition for the reception of trees. Does this seem like a great deal of cost and labor? It is the very cheapest way of getting fine crops of the best fruit, for the way in which strong, long, and healthy shoots will run up even the first year will seem like nothing short of magic; and the short time in which such trees will begin to hang out their ruddy or golden treasures, and the size, beauty,

and richness of the fruit afforded from such an orchard kept well cultivated during its early years, will astonish those who have never seen any but slip-shod culture.

After a tree is well set out in such an admirably prepared soil, the subsequent treatment although of the greatest importance, is very simple. It consists merely in keeping the soil mellow, by repeated stirring, and preventing the growth of any vegetable for several feet from the tree, whether it be weeds or the growth of a crop. A *hoed-crop* is however admissible, as being next best to clear mellow ground, because most of the surface is still kept well stirred during the operation of tillage. A *sowed-crop*, grass, or weeds, is ruinous to young trees.

These hints, we are aware, are not new to many; but it is often better to repeat an old and important truth, till all practice it, than to search only for what is new.

Stocks for Pears—Grafting Roses.

Owing to the prevalence of leaf blight in pear seedlings, I was induced to make some experiments on thorn and mountain ash, the result of which may be interesting to those cultivators who cannot obtain healthy pear seedlings. I found that the Tyson, Osband's Summer, Madeleine, Julienne and St. Ghislain, were exceedingly thrifty on the English whitethorn; and entirely failed on the Washington thorn, with the exception of Osband's Summer, of which I have trees of this season's growth, from three to four feet high, quite stout, and some of them considerably branched, so much so as to afford five or six stocks of buds of good size. On Mountain ash—Fondante d'Automne, Duchesse d'Orleans, St. Ghislain, and Osband's Summer, were remarkably fine. They were all splice-grafted on the roots of year old seedlings, the splice tied with candle wicking, and waxed with common grafting wax, laid on warm with a brush, thus entirely excluding the air, and which also enabled them to be handled with more safety to the graft than if whip-grafted.

Roses of several varieties, such as the common Black Moss, Gen. Duboury, and indeed all the Bourbon's I tried, succeeded admirably by splice grafting—and then placing five or six in a pot filled with charcoal, leaf-mold, and loam, say one-eighth charcoal—then put in a *moderate* hot-bed, the frame being covered with *cloth* instead of glass. In about three weeks they were nicely united, and made fine saleable plants in the autumn of the same season. E. S. Macedon, 8th mo. 30th, 1851.

(Continued from page 337.)

clety. Our notices in this department must be postponed till next month.

DAIRY HALL showed a fair display of dairy products, of the quality of which we are unable to speak. In the same department were excellent samples of seed grain of various kinds, flour, meal, corn-starch, &c.

MECHANICS' HALL was well filled, and contained many useful articles of late invention or introduction, which we shall notice hereafter.

MANUFACTURERS' HALL was less attractive in reference to the extent, variety, and quality of the articles exhibited, than this department has been on previous occasions.

FLORAL HALL consisted of an elliptical tent 80 feet wide and 140 feet long. Its interior arrangements were designed in excellent taste. Next to its outer circumference, and extending round the whole tent, was a series of terraced shelves, for the exhibition of fruit. These shelves were very closely filled. Next to this was the broad passage for the spectators. Inside of this passage was the series of tables, parallel to the fruit tables, for the flowers. These presented a very rich display. The interior area was occupied with a large mass of rockwork in the centre, interspersed with ferns, cactuses, &c., surmounted with a massive rustic tree, supporting baskets of fruits, flowers, grapevines, &c. On each side of the rock-work were high terraces of shelves densely filled with a rich display of greenhouse plants from several contributors.

Among the fruits which excited most attention, were the fine exhibition of peaches—many specimens of Crawford's Early measuring from 10 to 11 inches in circumference. Bartlett and Stevens' Genesee pears were exhibited possessing great beauty; and there was a profusion of fine apples. The following were among the principal contributors:—

Wm. R. Smith, of Macedon, N. Y., exhibited a collection of large glass jars, containing cherries, strawberries, peaches, &c. beautifully preserved in a fresh state, sealed air-tight. Bissell and Hooker of Rochester, very fine bunches of Black Hamburg, Golden Chasselas, and other exotic grapes, grown in a cold house; several other collections of foreign grapes grown in a similar way, including Muscat of Alexandria, Royal Muscadine, Hamburg, &c., show the progress of the culture of these varieties. Among the principal contributors, who all furnished extensive collections of fruits, were Benjamin Hodge, of Buffalo; Thorp, Smith & Co., of Syracuse; J. J. Thomas, of Macedon; W. F. and E. Smith, Geneva; and from Ellwanger & Barry, C. J. Ryan, Bissell & Hooker, N. Hayward, S. Moulson, and others of Rochester and vicinity. John Morse of Cayuga Bridge, exhibited 43 sorts of pears, in which we observed very fine specimens of Beurre Bosc, Flemish Beauty, and Pratt. Ellwanger & Barry had more than a hundred sorts of pears, embracing some fine and rare sorts. One of the best collections of plums was from E. Dorr, of Albany.

Among the floral contributions, we observed extensive collections from Wm. Webb and B. Hodge, of Buffalo, John Donnellan and C. Powis, of Greece, and King and Dawe, Ellwanger & Barry, A. Frost & Co., S. Moulson, Wm. Webster, and C. J. Ryan, of Roches-

ter. A beautifully constructed floral alcove was presented by A. Frost & Co.; a large and beautiful box of flowers, of some 200 sorts, by Mary Devoe, of Aurora, Cayuga county; and a very striking and singular conceit,—a finely proportioned pony, five feet long, surmounted by an equestrian "bloom-er," the whole composed of flowers quite tastefully arranged, was exhibited by L. E. Smith, of Saratoga county, New-York.

THE ADDRESS was delivered by Hon. STEPHEN A. DOUGLASS, of Illinois. It was devoted mostly to practical subjects, and contained many interesting suggestions. It was listened to by a large and attentive audience.

SALES OF STOCK.—Sales of live stock took place at the Fair to a large extent. We have notes in reference to many of these, but for want of space are obliged to postpone them till next month.

ROT IN POTATOES—YELLOWS IN PEACH TREES—DISEASE IN BUTTONWOOD TREES.—The *Mass. Plowman* gives the opinion of its editor, that insects are the cause of the potato disease. It is not pretended that the insect has been discovered, but it is his "belief that by the aid of powerful glasses we may yet be able to discover something as fatal to the potato as the squash-bug is to the squash." Is the editor aware that all parts of the potato plant have been often examined by the most "powerful glasses" in existence, without finding any such insects? But the editor claims to reason from analogy, and contends that what "some people call 'the curl'" and the "yellows" in peach trees, is caused by insects, and that the blight or disease of the buttonwood or sycamore tree has a like cause. He says the worms "work in the fore part of the season and eat off the leaves—when the worms cease to work, the tree is again clothed with a new suit, provided the soil is rich enough to furnish the means. If not, the tree dies after a few successive robberies of the leaves, as all plants will." Now, for ourselves, although we have examined both the buttonwood and peach tree with some attention, we have never found any insects which could produce the maladies alluded to, and such has been the result of the examinations of others. Will Mr. BUCKMINSTER have the goodness to send us specimens of the insects, with an account of their habits, which occasion the diseases spoken of in the buttonwood and peach tree? He thinks "there may be new creations of insects at the present day," and says, "we know that new varieties of insects make their appearance as the country grows older." Will he be so good as to tell us what "new" insects have either been "created" or made their "appearance?" In this matter, we believe "there is nothing new under the sun."

LARGE CROPS OF INDIAN CORN.—It is gratifying to perceive that the soil of the "Old Colony," though never of the most fertile character, is able to produce crops of Indian corn which can hardly be exceeded, and even rarely equalled by any part of the country. The agricultural society of Plymouth county (Mass.) gave premiums last year for this crop as follows: Morrill Allen 145, G. W. Wood 119, Nathan Whitman 109, Spencer Leonard 106 bushels per acre. Dixon Bryant 100 bushels per acre on three acres. Leonard Hill 94 bushels per acre on two acres.

New-York State Fair.

The eleventh Annual Show and Fair of the New-York State Agricultural Society, which took place at Rochester on the 16th to 19th of September, may be deemed to have fully equalled any previous display. All the departments, with the exception of "Manufacturers' Hall," were creditably filled, while in several branches the competition was unusually extensive. The number of visitors was larger than on any former occasion. A comparative idea in regard to the attendance at this and the two exhibitions last preceding it, may be obtained from the receipts, which for 1849 were \$8,144.55; for 1850, \$10,465 61; for 1851, 11,956.11.

The number of people who entered the grounds during the four days, must have exceeded 100,000. The crowd on Thursday, the first of the "shilling days," was absolutely immense, so covering the whole field, which comprised nearly thirty acres, that it was with difficulty a person could pass from one part to another.

The location was about a mile and a half south of the city, on the west bank of the Genesee river, and from the elevation of the land, commanded a very good view of the surrounding country, including the beautiful grounds of the Mount Hope Cemetery, on the opposite side of the river. The field, though somewhat rough in its surface, was on the whole well adapted to this object. The soil was sufficiently moist to prevent the rising of much dust till towards the close of the exhibition, though the clouds which rose from the neighboring road, proved a considerable annoyance when the wind blew towards the field.

The general arrangements were admirable, both in design and execution, and reflected much credit on the officers and others, under whose direction and supervision they were made. The buildings were well planned and well situated, and in construction and finish, were, in some instances, a decided improvement on those of previous exhibitions. So far as we are acquainted, the good order and system manifested in all the departments of the exhibition, gave entire satisfaction to the numerous competitors. The various superintendents were active and accommodating. Their duties were very arduous, and they are entitled to many thanks for their vigilance and untiring exertions.

The occasion has passed very pleasantly, and in its ultimate results, will prove largely beneficial in aiding the cause of improvement in agriculture and the other industrial arts. The general expression among the masses, was that of satisfaction. We heard little complaint of want of accommodations, or of extortion, or imposition. On the contrary the liberality of the citizens of Rochester, in opening their doors and providing food and shelter for the thousands, has been frequently spoken of in terms of high praise.

The weather was highly favorable—the change from the intense heat of the previous week, being very fortunate and agreeable. The clear sunshine was, however, even with the moderate temperature, somewhat oppressive to those animals, which were obliged to stand fully exposed from morning to night for four days in succession. Nearly all the cattle were placed in this situation. A few of the exhibitors erected awnings over their animals, which greatly promoted their quiet and comfort. Would it

not be well for the Society to provide this protection in future years? The expense would not be great. Cotton cloth would serve for the canopy, and if properly taken care of it would last many years.

We have only room at present to speak of the exhibition in brief and general terms, and must leave to another occasion more particular notices.

HORSES.—This interesting department was unusually full, and comprised good specimens of the different classes. In the class of Blood Horses, the competition was quite limited—indeed we saw but three or four animals which appeared, strictly, to belong to this breed. We noticed Mr. Burnett's well-known Consternation, and the horse Prior, bred in Virginia, now owned by Mr. Baker, of Otsego county; also a beautiful four-year-old horse by Consternation, owned by Geo. Hammond, of Rome.

Of Roadsters, or light carriage horses, there were some excellent specimens of the Morgan stock, among which we noticed the fine horse Morgan Hunter, owned by Ackley and Gilbert, of East Hamilton, Madison county,—General Gifford, owned by Mr. Ingersoll of Lodi,—Major Gifford, now kept at Penn-Yan, formerly owned by Mr. Mason, of Jordan. The colts, by Gifford Morgan, shown by Mr. Gilbert of East-Hamilton, and Mr. Wier, of New-Hampshire, as well as those by General Gifford, owned by Mr. Dorr of Scottsville, Monroe county, received much commendation, as did also a colt, by Black-Hawk, owned by Mr. Remington of Sennett.

The class of Draft Horses, comprised the largest display we have ever witnessed. Many of the best were the progeny of an imported English horse called Sampson, or the "Robinson horse," formerly owned by John Robinson, of Wayne county. This stock of horses is highly prized by many for the purposes of farm labor. A pair of mares, sisters, six and seven years old, weighing 2,600 lbs., owned by Mr. Hale of Lyons, Wayne county, attracted much attention, not only for their size, but for their symmetry and apparent strength.

There were several horses in this class from Canada. One called Clyde, of the Clydesdale breed, from Toronto,—which was exhibited at our State Fair at Buffalo,—was on the ground, accompanied by three of his progeny, from four to six years old. They were all of the color of the sire, grey, and closely resembling him in shape. The old horse is very large—we were told he had weighed upwards of 2,000 lbs.—but he is quite active, and trots with a lighter step and more apparent ease, than many horses of ordinary size.

The matched and single carriage horses, were not, on the whole, superior to several previous exhibitions. We noticed a pair of handsome sorrels, owned by Gen. S. M. Burroughs, of Medina, and a pair of well made and well moving chestnuts, owned by Mr. Baker, of Rochester.

CATTLE.—The show of breeding stock in this department was very large—perhaps larger than at any former show of the Society; but the fat cattle and working oxen were not as numerous as at some former shows.

The Short-horns were well represented from the herds of Messrs. Morris, Sherwood, Chapman, Becar, Allen, and others in this State, besides several fine specimens

from Canada, owned by Messrs. Fergusson, Wade, and others. Mr. Fergusson's roan bull, Halton, and his red cow, and Mr. Wade's roan bull, "American Belted Will," were among the very best animals in this class, and it was the opinion of many connoisseurs that Mr. Fergusson's cow was the finest Short-horn cow on the ground. A bull exhibited by Mr. Green, of Winslow, Maine, had many good points.

The Herefords were principally from Mr. Sotham's herd. He exhibited a considerable part of his stock, without selection, and as a matter of course, some of them were "out of condition;" but a judge could see that there were several very fine animals among them. A two-year-old bull of this breed, owned by Gen. Harmon, of Wheatland, has excellent symmetry and quality.

The Devons were in larger force than at any previous show, and although some of the animals exhibited in this class were evidently of spurious character, there were many very fine ones, which were no disparagement to this beautiful and popular breed. The imported bull (bred we believe by Quartly) shown by Mr. Wainwright, of Dutchess county, is a splendid animal, combining almost every point which constitutes perfection. Several of the cows and heifers from the herds of Messrs. Van Rensselaer, Morris, Wainwright, Stevens, Beck, Garbutt, Vernon, Washbon, Baker, Hamlin, Sheffer, and others, were excellent. Mr. Gapper, of Canada, also exhibited several good Devons. One of his cows, own sister to the noted bull Major, (who was bred by Mr. Gapper,) was one of the very best of her class, and his young imported bull has some very superior points—especially the general fullness and levelness of his back.

There was but little competition in Ayrshires. Mr. Prentice exhibited nine head, among which was his beautiful young bull, Dandy 2d, and several choice cows and heifers. A bull was also exhibited by Wm. Somerville, Ellicottville, Cattaraugus county. There was also an excellent cow owned by W. A. Mills, of Mount Morris, Livingston county.

Several Alderneys, or Jerseys, were exhibited by Mr. Colt of New-Jersey, one of which was the imported cow which was shown at the last State Fair at Albany. Mr. Colt also exhibited again, his imported Hungarian cattle, which, from their novel characters, were regarded with so much curiosity last year. They have greatly improved in general appearance, and increased very much in size. They both indicate great tendency to fatten, and the bull has good shape, and evidently possesses great strength and constitution. It is to be hoped that these cattle will receive a fair trial, in regard to their usefulness for our purposes.

The most interesting specimens among the fat cattle were three spayed cows, five and six years old, nearly full blood Devons, owned by Geo. Sheffer of Wheatland. They were all remarkable for fatness and symmetry, and one of them, (the smallest of the three,) exceeded any other animal we have ever seen, in the amount of high priced meat she carried, in proportion to the coarse parts and offal.

SHEEP.—The exhibition of sheep was the largest and best we have ever seen. The Saxons were represented by good specimens from the flocks of Messrs. Church,

of Oneida county, Colt, of Monroe, and Scoville, of Connecticut. The reputation of all these flocks is well known. The Merinos were very numerous. The stock known as the "French Merinos" was shown by Gen. Harman, of Wheatland, Mr. Hall, of Gaines, Orleans county, Dickinson, of Victor, Ontario county, and others; and good specimens of the Spanish stock were shown by Messrs. Burritt, of Burdett, Tompkins county, Cook, of Lima, Livingston county, Dart, of Harpersfield, Delaware county, and others.

There was an extensive competition in South-Downs, and most of the lots were of fair quality—several first-rate. Those belonging to Mr. Morris, of Fordham, Westchester county, Col. Sherwood, of Auburn and Mr. Wakeman, of Herkimer, attracted much attention. Several of Mr. Morris's and Col. Sherwood's were obtained from the celebrated English breeder Jonas Webb.

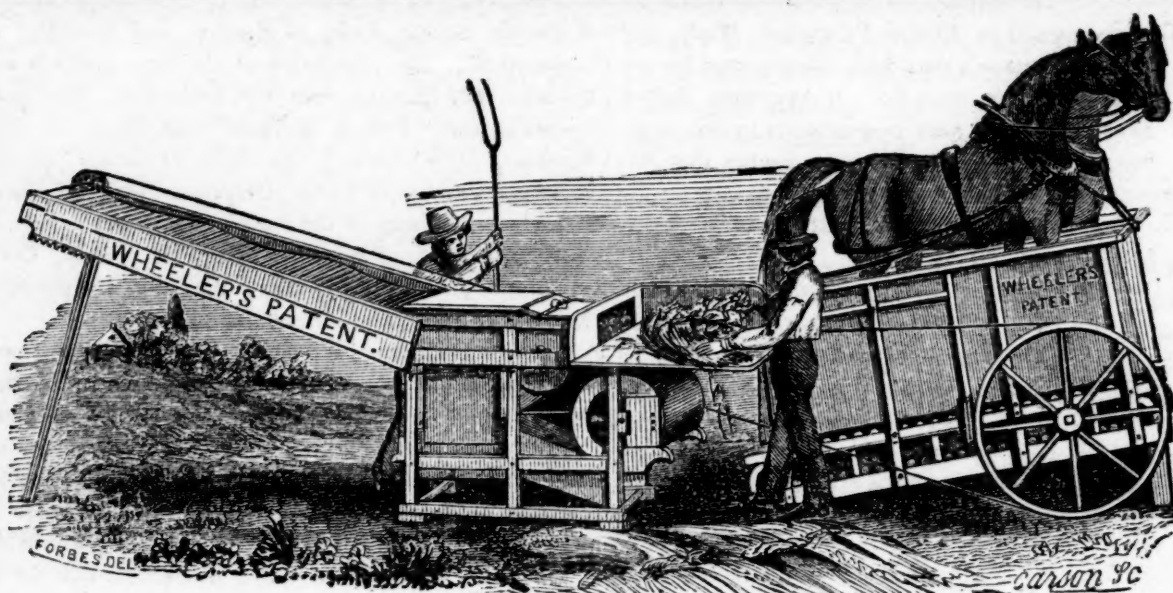
The Long Wools were quite numerous, but for the chief excellencies in the specimens exhibited, we are sorry to say we are indebted to our Canadian brethren. The lots offered by Mr. Gapper, of Thornhill, Mr. Wade, of Port-Hope, and Mr. Miller, of Pickering, were good specimens of Leicesters, and Mr. Miller's ewes, might almost be taken as standards for that breed. Some fair Leicesters were offered by Messrs. Peck of Lima, Rathbun, of Springfield, Otsego county, McDonald, of Warren, in the same county, Horbury, of Columbia, Niagara county, Swailes, of Sodus, and others in this state.

SWINE.—The show of swine was quite large, but in general, the stock was by no means of the best quality, being coarse, bony animals, which would require high feeding, and too long a time to reach maturity. Some fine Suffolks, and those of other blood, were shown by Mr. Morris, of Fordham, and Wm. Hallock, of Rush, Monroe county. Some good hogs of somewhat larger size, (Leicesters,) were shown by Turner Brown, of Chili, Monroe county, and Wm. Webb, of Darien. A Chinese sow,—evidently of a very prolific stock, as she was suckling 13 pigs—was shown for exhibition only, by Mr. Delafield, the President of the Society. The stock indicates the tendency to fatten for which the Chinese swine have always been noted, but it appears to have been lately introduced into this country, and has not yet received that refinement of shape, which it is susceptible of attaining under the direction of a skillful breeder.

POULTRY formed a large display. A great portion of the fowls were of the large Asiatic tribe, known under the various names of Malay, Java, Cochin-China, Shanghai, &c.; some of the best of which were offered by B. B. Kirtland, of Greenbush. Some good Dorkings were shown by L. F. Allen, of Black Rock, and D. P. Newell, of Rochester. Some good Silver Polands, or Silver Top-knots, were shown by F. W. Collins, of East Bloomfield, Ontario county; and some very good Creole fowls, by Alfred Stevenson. Handsome Bremen and White China Geese, were shown by L. F. Allen of Black Rock; wild turkies, by L. K. Haddock, of Buffalo.

IMPLEMENTS.—The display of agricultural implements was quite as large, and embraced a greater variety and wider competition, than any former exhibition of the So-

(For conclusion, see page 335.)



WHEELER'S COMBINED THRESHER AND WINNOWER.

The Farmer's Note-Book.

Wheeler's Combined Thresher and Winnower.

This machine was invented and patented by THOMAS B. WHEELER, of the firm of WHEELER, MELICK & Co., Albany. As the name purports, it is designed for threshing and cleaning grain at one operation. The winnowing apparatus may be fitted to powers of either one or two horses; the cut represents the latter, and with this power the machine is capable of getting out 150 bushels of wheat, or 300 bushels of oats in a day. The number of hands required depends much on the facilities for working the machine, the convenience of feeding, and the room for disposing of the straw. We saw it in operation lately, in threshing mowed oats, which were not in the best order, and it worked at the rate of 40 bushels an hour—cleaning the grain in a thorough manner—the number of hands employed being four men and two boys.

The cost of the whole apparatus, as above represented, is \$200; the additional cost on account of the winnower, is \$55. Further particulars will be learned from the advertisement of Messrs. WHEELER & Co.

Harvesting Indian Corn.

EDS. CULTIVATOR—I notice in the Cultivator for September, under the head "Harvesting Indian Corn," an implied call for an experiment I made about 12 years since, in which I was highly gratified.

I made an experiment on about one and a half acres, (I should judge,) by topping the stalks on half the piece—divided by plats of four rows each, commencing with two rows topped, then left four untopped, then topped four, and so on, through the piece, ending at the last side as I began, with two rows untopped—so that just half of the corn was topped and half left untopped, and the division so made as to leave no difference in the quality or quantity of corn in either part. The rows were north and south.

It is so long since I made the experiment that I am unable to give the details as to the time of cutting, the

exact amount of difference, &c. The above piece was topped, (or half of it) as above described, at the usual time of topping in that section of country, Franklin county, Mass., on the east of the Connecticut river. The corn was planted on my land, by a neighbor, upon shares, and his share was half, and the reason of my making this experiment was, I was convinced that corn lost more by topping than by cutting up at the bottom, while my neighbor believed otherwise. When the corn was ripe, we gathered it in the same day, husking it in the field, weighing the ears as we put them into the wagons, and the result was, I had from my half of the piece, divided as above described, and left to ripen in the order of nature, 1400 lbs., while the owner of the other half, which was topped, had only 1112 lbs. from his part, making a difference of nearly 300 lbs.

It is proper to mention that we were satisfied that his corn was a little the dryest, but deduct 50 lbs. of the overplus on that account and it leaves more difference than the value of the tops he took off.

I had another piece of about an acre in the same field, but planted myself and having no partnership about it. About 10 or 12 days after my neighbor had topped his part of the former piece, a frost came, and supposing it to be so severe on the corn that it was best to cut it up at the bottom, I went into it with my help and cut about half of that piece, on one side. We found on the drying off of the frost and dew, &c., that the corn was not as badly injured by the frost as we had anticipated, so I left the remainder to ripen as before, in the order of nature.

When we gathered the corn, we took the same method to ascertain the proportional quantity, by weighing the ears, and found about half the difference in quantity in favor of the part standing, that we found on the former piece. It may be proper here to remark that we cut it up a little earlier, in relation to its ripened condition, than is commonly done when cut up at bottom, and somewhat later than the usual time of topping.

Now from the above two experiments, we obtain two important items of information. First, the most corn

will be produced by letting the crop ripen in the order of nature; and second, that by cutting up at the bottom, although a greater molestation or derangement of nature's operations, yet we get more grain than by topping. Now as to the value of the stalks topped, compared with those cut up at bottom, I have not any positive knowledge, but will venture an opinion that stalks cut at the bottom are worth about double what they would be topped, after taking all the bearings into the account, such as getting them clean off the land, making manure of the refuse, and the extra trouble of getting the topped stalks out of the corn ground, &c. I am sensible that cutting up at bottom makes heavy work, which some, who are on the watch-tower for a quarrel with labor, complain of, but when the crop is well-stocked up, and gets suitably dry for storing, it is a much shorter job to get in a field of corn in that way, than it is to pick and husk in the field, or even to pick it with the husks on and carry it into the corn-house or barn, or any other building that may be designed for such uses. And then it is out of the way of bad weather, and may be husked out more at one's leisure, than when standing in the field. OLIVER MOORE. *Kensington, Sept. 1, 1851.*

Extremes---Comparative Value of Carrots.

We notice in an "official" report of a discussion by the American Institute Farmers' Club, Mr. MEIGS stated that "carrots are equal, bushel for bushel, to corn or oats," as food for animals. Prof. MAPES, speaking on the same subject, said,

"As to carrots, parsnips, &c., experiment has distinctly shown that in feeding for pork, the roots make it for four and a half cents a pound, and corn for twelve and a half cents a pound. Campbell of Jersey has fully demonstrated this, and so have I."

We regard these as random assertions. We think highly of the carrot, and have often recommended its culture; but even gold may be too highly estimated, and we cannot understand how carrots can be "equal," in nutriment or value to corn or oats, bushel for bushel. True, it may be better for an animal to receive a certain proportion of carrots, to the exclusion of an equal proportions of the grains mentioned. But this no more proves that the carrots are "equal" to the grains, than the fact, that it would be better for a man to eat a pound of potatoes and a pound of meat, rather than two pounds of meat, proves that potatoes are "equal" to meat, pound for pound. Both facts simply show that the animal system is benefitted by the mixture of food mentioned.

We should like, to see the details of the experiments which "distinctly show" that pork can be made from carrots and parsnips at four and a-half cents per pound, and that when made from corn, it would cost twelve and a-half cents per pound. We do not deny that pork may be made from roots at the price named, but we cannot see why it should cost twelve and a-half cents per pound to make it from corn. We know there are not many accurate experiments on which we can rely as positive proof, on this subject. From the results of some trials made in Essex county, Mass., a few years ago, it was concluded by a committee of the Agricultural Society of that county, to whom the subject was referred, that

a bushel of corn would make twelve pounds of pork. Supposing the corn to be worth sixty cents per bushel, this would make the cost of the pork five cents per pound. Prof. JOHNSTON, in a late lecture in Scotland, said, "the Chinese and Berkshire pigs are said to produce ten pounds of bacon for every imperial bushel of corn [grain] they consume." But, as before remarked, there is an advantage in mixing food for animals, and the experience of many farmers teaches that pork can be made to better advantage by mixing grain or meal with vegetables or fruits, than by either separately.

Agriculture and Horticulture in Greene Co., N. Y.

EDS. CULTIVATOR—I was very much interested in the "Sketch of the late Judge Hayes," in the August No. of the Cultivator—especially in that part of it which sketches his plans and mode of agriculture. There is so much good sense in his management, that I concur with his plan, and have substantially practiced it for years past. I have but a small farm of 30 acres; five of it I have set out, mostly with fruit trees, and nursery trees, of which I have a great many choice varieties, as well as a fine flower garden. For many years past, I prepared a pen for my hogs, which is a hard pan bottom, slightly sloping south, at the lower fence of which I set up edgewise, flat stones settled down to the hard pan, to prevent leakage of manures, and like Judge Hayes, I make it a depot of all surplus weeds, potato tops, straw, and many large kinds of weeds that our highways are filled with; and to these I sometimes add slaked lime and leached ashes, and all the manure and bedding of one of my horses, and from this source I usually get from 25 to 30 loads per year, of the best manure. I also have a compost hollow in my yard, where two cows and another horse are kept, which adds a rich dressing for my lands.

Some four years since, I added to my little farm about three acres, on one acre of which the refuse tan-bark of an old fashioned tannery had been spread, including the lime, had been mixed with the earth; and from this I drew many a load of rich dressing for my strawberry beds, and around my grape-vines and roots, and some in my flower garden, and around quince trees, gooseberries and currants, which I cultivate in single stalks, kept free from weeds or grass. These dressings produced large gooseberries, particularly the imported "Roaring Lion," of Scotch origin, and which have measured over six inches in circumference the longest way, and five the other way, and the imported English Sweet Williams are nearly as large. I have a small jar of them preserved in the purest alcohol, reduced one half by pure water, and sealed up.

I now have over one hundred quince trees that are bearing, nearly all in single standards, and of the apple kind. They often have weighed a pound each, and bear annually. Currants trimmed in single stalks, often grow five and eight feet high, and the white, red and black, are much enlarged, and remain good till frost comes, by reason of keeping the ground clean, and well dressed with compost, and the plants either staked up with hemlock stakes, or trimmed up along picket fences; and they produce large quantities of large stems. So it is with the common black raspberry, which I have transferred from the field, and have staked up with the Red and White Antwerp, and keep the ground clean.

Last fall, on clearing up about three acres of new land to sow some Mediterranean wheat, I found that a swale of about one-fourth of an acre was filled with a rich black mold, that had been perhaps 50 years accumulating, from decaying leaves, and the running of a small spring that spread around on the flat. In some places it was from one and a half to two feet deep, and while carrying manure, and cultivating and plowing, for sowing the wheat, I drew 30 two-horse waggon loads of this mold to my garden and fruit yards, and added some lime, ashes, leached and unleached, and where the ground was clayey I added fine sand, washed into heaps on my premises in a great freshet. My vegetable garden and a sloping field of fruit trees, of about three-fourths of an acre, I dressed with this and other manure, and plowed it up in ridges in the fall, so as to enable the frosts of winter to pulverise and make it fine for early planting in the spring. A sufficient portion of that 30 loads, I preserved in heaps near my fruit yards and garden, and two small meadows set with trees, to be used the past spring to dress them, and put round the trees, flower-beds, shade trees, shrubbery, grapes and strawberry beds, as well as over tulip bulbs. And at no season have I ever had so fine a growth of tulips, crocuses, crown-imperials, double and single Michigan roses, double and single Yellow Huron roses, and the Baltimore Belles' and other varieties, and at this time my garden is alive with double and single sun-flowers, from black to white, as well as the Silesian Gold-flower, which blossoms twice a year, and often three times. At strawberry time we feasted on some half-dozen varieties of fine strawberries, the last of which were the Ross' Phoenix, Boston Pine, the Beehive and Hovey's Seedling. The last one was larger than any of the others. I have other fine kinds, set last spring, obtained from Marshall P. Wilder's garden, that I am satisfied will prove fine another year. This rich feast was followed by rich treats of raspberries of different kinds, which are still bearing.

I obtained last year, some fine dwarf pears on quince standards, that blossomed finely this year. They were imported from France by Thorp, Smith & Hanchett, of Syracuse. Of 25 which I got of them, my neighbors got all away from me but ten. And of over 30 of similar kinds, that I got this spring from Mr. Wilder's garden, and 20 more from Thorp & Co., nearly all were taken by purchasers who were glad to get them at from 50 to 56 cents each, because they were fine; and such a fine growing season as we have had, has, in connection with the dressing around my fruit trees, put them forward, and they are more full loaded with fruits of numerous varieties, (over one hundred,)—especially my plum and quince trees, are overloaded, and apples, pears and peach trees, well filled. My choice cherry trees were young, and just beginning to bear, and the birds picked most of them this year. I have over 500 fine grafts—mostly whip grafted—and a good many pears, whip grafted on small, thrifty quince sprouts, that are growing finely, and have several thousands of apple, pear, peach, cherry, and plum trees, that are in fine order for budding. The constant rain keeps a good flow of juice under the bark, and all yet budded bid fair to live.

Excuse me for so long an epistle. But when I think of the ease with which our farmers could fill their gar-

dens and fruit yards, with the *healthy* and delicious kinds of fruit, I can hardly stop describing them, and the easy mode of cultivation. They seem to me to be designed for the health, pleasure and happiness of the honest yeomanry of our rich agricultural "Empire State." A. M. Durham, August 10, 1851.

"Chess will turn to Wheat."

This maxim has been handed down from generation to generation, but the *present* day is one in which many facts are demonstrated by way of *experiment*, rather than by the traditions of our fathers.

Last fall, I picked out, head by head, of the *Hutchinson* wheat, three bushels, which I sowed on *new land*, a part of which was rather wet. It was sowed late—fore part of October—and produced a light crop—having all the circumstances favorable to the growth of *chess*; yet when I came to harvest it, there was not a head of chess to be found in the *piece*.

And now, farmers, if you wish to raise a crop of chess, I advise you by all means to sow chess, and not calculate on making it out of wheat, for unless you have better success than I have had, you will *certainly* fail of a good crop. I am expecting to sow 20 acres of new land this fall, and should I receive the blessing of a good crop, I hope to be able another year to furnish a few farmers in this vicinity with the pure *Hutchinson* wheat, and nothing but wheat, and that, too, which I shall not be afraid to warrant will *not* turn to chess if sowed on new land. SOLOMON LEONARD. *Berkshire, Tioga county, N. Y., 12th August, 1851.*

Crops in Seneca County—Stage for Cutting Wheat.

EDS. CULTIVATOR—Having finished my wheat harvest, and being now about finishing the hay, I write you a few lines about crops, &c. Our wheat crop in this immediate neighborhood, I think is a very good one; mine, I know, will turn out about the same as last year. My hay crop is the largest I ever cut—in fact it is immense, and I presume it must be the same throughout Western New-York. Oats are also very good; barley is said to be excellent; corn, I think, from what I have seen, cannot make a good crop.

I have noticed of late a strong desire in your correspondents, and also in those of other agricultural papers, to induce farmers to cut their wheat before it is ripe. I am well aware that cutting wheat in a raw state makes the best and handsomest sample; but I notice some advise cutting it *twelve days* before it is ripe. Now it would be absurd to cut wheat in this country twelve days before it is ripe—indeed the farmer had better have it destroyed by a hail storm, than cut it twelve days before ripe, because in that case he would save the expense of harvesting green wheat, which would be almost worthless, as far as the grain was concerned. As the greater part of the wheat in this neighborhood is cut by reaping machines, there is no danger of farmers cutting it twelve days before it is ripe, as they could not do it with machines until nearly ripe.

I notice a great deal said about saving from shelling when cut green, but let these men bind sheaves a week or two, and they will see that wheat cut even eight days before ripe, will shell in handling, more than when just

so hard that the grains will not bruise between the thumb and finger.

COVERING DRAINS.—In directions about covering tiles, I notice the joints are to be covered with a *sod, shavings or straw*. I have laid on my farm over fifteen miles of tile drains. I have a double tree, nine feet long, and I put a horse on each side of the drain, and plow the earth right on the tiles, without any covering, and I have never had a stoppage, excepting where the tiles were too small to contain the water.

I have purchased 10,000 tiles to lay this fall. A neighbor laid 12,000 last spring, and several others are going to drain this fall. The low price of wheat will be a hindrance to draining, but nothing pays as well as this business. We have another tile machine started in this neighborhood, and Mr. Whartenby, at Waterloo, is also getting another put in operation, also another kiln and sheds for drying; but the increasing demand would, I think, take more if they could be got. One of my neighbors intends laying 15 or 20,000 this fall and next spring.

In covering tiles by the plow, care should be taken that there is no stones large enough in the first furrow to break the tiles, and the first furrow should be a light one.

PLOWING FOR WHEAT.—I notice that one of my neighbors is mowing his pasture fields, with the intention of plowing them up for sowing with wheat this fall, with one plowing. I have no doubt that he may have a good crop, *provided* we immediately get good *soaking* rains, so that it can be *deep and thoroughly plowed*; if not, my opinion is that there will be more timothy than wheat next season. Although we have had many rains to retard hay-making, and even damage part of the hay, we have not had any *soaking* rains to wet or soften clay soils.

JOHN JOHNSTON. *Near Geneva, Aug. 6, 1851.*

Advantages of Drainage.

The advantages of drainage are becoming more and more conspicuous as the system is adopted and extended. This will continue to be the case till the increased products and profits of cultivated land, will be augmented to an amount which is at present beyond estimation. Col. SHERWOOD, of Auburn, lately informed us that he had, within about a year, purchased 14,000 drain-tiles, from the manufactory of Mr. WHARTENBY, of Waterloo. He has laid nearly all these, and their benefit is already so obvious, that he intends to lay more as fast as they can be obtained. Col. S. showed us a field of wheat, on a part of which tiles were laid last fall. The superiority of the crop on the drained portion, was very manifest. He related an incident illustrating the effects of drainage in bringing the soil to a workable condition in spring. On a part of a field having rather a tenacious soil, he laid tiles just before the setting-in of last winter. The last spring was wet and backward, and much ground could not be plowed till very late. He intended this field for barley, the sowing of which he was anxious to do at the proper season, but was obliged to defer operations on account of the undrained land. At length plowing was commenced, and the furrows were run in such a direction as to cross both the drained and undrained portions of the field. On passing from the one

to the other, the plowman was at once struck with the difference in the condition of the soil—that on the drained part breaking up sufficiently dry and “crumbly,” or friable, and the other being stiff and “clammy.” The plowman observed, also, that the draft of the team was plainly less when plowing the drained part than on the other. The difference in the condition of the soil was obvious when the seed was sown, and a corresponding difference was doubtless exhibited in the yield of the crop.

Flax-Cotton and Linen.

There appears to be good reason for believing that the discoveries and experiments of CLAUSSEN and others in regard to the spinning and manufacture of flax by machinery, will result in important improvements. Fabrics have already been produced in England from cotton prepared by M. CLAUSSEN's process, specimens of which, and of the cotton in various states, have been sent to this country. An editorial article in the *New-York Tribune*, speaking of those articles, says “The simply dressed fibre is as clean, as fine, as soft, as strong, as easily spun, as any Sea Island cotton, and is said to cost but nine farthings (less than five cents) per pound in England. That it would produce a fabric every way equal to the best bleached shirtings or sheetings, we have no doubt.” In relation to the flax-cotton fabrics, it is said—“they are at once elegant and serviceable, especially a pantaloons stuff closely resembling satin.” And of the specimens of dyed flax-cotton, it is said they are “perfect, proving the capacity of this staple to take the most delicate tints as well as the most vivid colors.”

It should be here stated, that the prepared flax possesses decided felting properties, and may be formed into fabrics in combination with wool. Specimens of these fabrics, consisting of flannel and broadcloth, of various colors, and said to possess remarkable strength and beauty, have been exhibited by M. CLAUSSEN at London.

Mr. M. B. BATEHAM, of the *Ohio Cultivator*, writes from London that M. Claussen has disposed of his right to use his process in the United States, and that arrangements are in progress for the production of the flax-cotton here. Mr. B. suggests that farmers who are growing flax for seed, should save the straw, after the seed is threshed out, in anticipation of its becoming valuable. He states that the machinery which M. Claussen uses for reducing the straw to a suitable condition for market, is very simple, consisting merely of a series of iron rollers, propelled by horse or other power, which so crush and break the woody portions of the straw, that by shaking or “scutching” it can be mostly separated from the fibre, and is made ready for the chemical process which prepares it for spinning.

While the experiments above alluded to, have been going on abroad, others of a not less interesting nature, have been made in our own country. Dr. O. S. LEAVITT, of Maysville, Ky., has invented a process for spinning unrotted flax and hemp by machinery. By this process he states that “linen fine enough for the best shirt linen can be produced from the unrotted hemp, while the unrotted flax will be run to the very finest numbers.”

It is not designed by this process to bring flax and hemp into a condition resembling cotton, but to preserve

the peculiar qualities of those articles in the fabrics produced from them. The inventor is sanguine in the belief that "linen can be produced as cheap as cotton goods of the same fineness when raw cotton is not less than seven cents per pound." He says,

"There can be no doubt but, by Claussen's process, a valuable substitute for cotton can be produced from flax, and these two processes render all the flax-growing world independent of the cotton-growing. By neither process is flax wanted in its rotted state, but in the very condition most convenient for the farmer, and in which he can produce the greatest quantity."

Dr. L. states that a charter has been obtained from the legislature of Kentucky, for the incorporation of the Maysville Linen Company, and that the practicability of his process is about to be tested on a large scale.

The following is a summary of the principal points claimed to have been gained by Dr. L.'s invention:

1. The use of unrotted hemp and flax, being mowed or cradled, and not pulled, thus saving the great expense of rotting and breaking.
2. The ability to run the coarsest and most rigid hemp or flax, to the finest numbers.
3. The saving of the heretofore expensive heckling process, using a machine which removes from the *shives* the lumps and short fibres as they pass through.
4. Making not more than half the tow usual.
5. Securing uniformity and certainty of full strength of fiber, and greater consequent durability of the fabrics.
6. Rendering the bleaching remarkably cheap and simple, where it is now difficult.
7. Doing away entirely with the offensive smell and unwholesome air, now a source of such universal complaint in flax mills.

French vs. American Merinos.

EDS. CULTIVATOR—As there has been much interest manifested by the community of late, in relation to the "French Merino Sheep," and as the late importations increase that interest, I would like to know the intrinsic value of those sheep compared with the Spanish or American Merinos. And perhaps we can come at in no better way than by asking a few questions, which I wish you or some of your correspondents to answer. First, what did the pure blood French Merino wool sell at per pound, to the manufacturer, last year? or, in other words, what is its relative value compared with the American Merino? Second, what is the relative weight of the two classes, taking the feed into consideration? Third, how do their constitutions compare under the same care, and with the same quality of food? A SUBSCRIBER. *Vergennes, Vt., July 4, 1851.*

Advantages of Paring and Burning Soils.

Mr. PUSEY, (*Jour. R. A. S.*) states, that a piece of very stiff clay—so stiff that it appeared to be "clay untempered by any grit," and which packed so hard in dry weather that it could hardly be dug with a pickaxe—was, in 1846, drained and breast-plowed, and a part burned over—the other being left on account of wet weather. It was sown with oats, and the produce was as follows:

Where the sward was burnt,..... 6 qrs., or 48 bus.
Land unburnt,..... 2 16

The same land was burnt again immediately after the oats were taken off; part was burnt and part left unburnt, on account of wet weather as before. The burnt

land yielded a good crop, the unburnt a very poor one. It was again pared and burned, and sowed to wheat. The yield on the part which had been thoroughly burnt for three years, was 42½ bus. per acre.

Mr. PUSEY also relates another experiment. A portion of a field was dressed with burnt clay, and a portion left undressed. It was sown to wheat and the result was as follows:

Soil simple,..... 37¾ bus.
Dressed with 80 yards burnt clay.... 45½
80 yards do., and sheep folded,..... 47½

Excursion to Paris.

PARIS, AUGUST 9, 1851.

EDS. CULTIVATOR—On the invitation of the Prefect and Municipality of Paris, the Commissioners, Executive Committee, Jurors of the Great Exhibition, and the Lord Mayor and a very few of the aldermen of London, left on the first instant, on an Excursion to Paris. I was fortunate in securing a place in the first train with my luggage. We started at 9 A. M., and passed rapidly to Folkestone, mainly through the county of Kent. The land on the route was rather of a light character, and the crops not very good. In fact, taken together, as poor as any I have seen, except in the county of Durham. Hops were frequently seen—appeared very well. The poles are much shorter than ours, and the vines much smaller. They looked healthy and vigorous, and a good yield is anticipated.

We arrived at Folkestone at half past 11, and immediately proceeded by steamer to Boulogne. The steamers on the route are small open boats—the cabins not large enough to hold more than 50 persons—the residue of the passengers are accommodated with a deck passage—much like working one's passage on the tow-path of the canal. The distance from Folkestone to Boulogne is about 29 miles. Soon after we left the harbor the little boat began to roll about, and the passengers, many of them, gave indications that they were out of their element. Wash-bowls, which are provided in abundance, were soon in requisition in every part of the boat, and a large portion of those on board were sea-sick, and looked the very pictures of despair. Among the number was the Lord Mayor of London, who behaved very undignifiedly for the chief magistrate of the city over which he presides, and within whose limits he allows *no soldiers* to be quartered. But these things were soon ended. In two and a half hours we were landed at Boulogne, where we found a large company of *Monsieurs*, with soldiers in blue coats and red pantaloons, waiting for us. The Lord Mayor of London being the lion of the party, was received on landing, by the Prefect of Boulogne, and had to make a speech in reply to an address made him, which he managed to do quite cleverly, though it smacked somewhat of *salt water*. We were then escorted to the railroad station, where a hot breakfast was prepared, sufficient for all. It was prepared in good style, abundance of fruits, such as peaches, apricots, plums, pears, strawberries, cherries, melons, &c. We did ample justice to the breakfast, and speeches, and wine, and hurras for the *angle terres*, My Lord Mayor, &c., were very abundant. After about two hours delay, we started off in two trains for Paris—the

Lord Mayor leading off. We passed through a level country to Amiens, about 100 miles. The whole country, as far as the eye could reach, was under cultivation. The crops generally, were quite light—comprising almost every variety of grain. There were no divisions or other fences on the route; the land cultivated in small plats by the peasantry, and the variegated fields of every hue, presented a beautiful appearance. There were no farm dwellings to be seen, as with us. Occasionally we passed a small village, with thatched houses, and narrow winding streets, where the cultivators of the land reside, many of them having to go miles, daily, to their work. Their implements are quite rude—the plow in general use, and in fact the only one I saw, was like the one in the Agricultural Museum, from Canada.

On the marsh land on the route, of which there was considerable, we observed immense quantities of peat, cut up, and in many places pits of it smoking, which is used for fuel, and in some instances, I presume, for manure. On many of the small grass plats in the fields, cows were feeding, tied to stakes, on others sheep, in care of a shepherd and dog. Very few pastures were seen, where there was any considerable number of cattle grazing, and meadow land is very rare. The whole country was under crops—wheat, oats, barley, buckwheat, rye, clover, red, scarlet and trefoil, sanfoin, hemp, potatoes, poppies, Swedish turneps, mangel wurtzel, &c.

The land, evidently, on this route, requires deeper plowing, and much more manure. Occasionally lime was to be seen, prepared for the land, but generally the crops, from the shortness of the straw, and the light heads of the grain, gave evidence of a lack of proper culture. Much of the grain was being cut. A cradle with short fingers was in use. They cut with this towards the grain, as with the sickle. Women are employed in all varieties of work in the fields, and old men generally with them. Very few young men, comparatively, are in the fields. They, I presume, are in the army of the Republic, to keep the people in subjection.

When we arrived at Amiens, which is quite a large town, we found a great crowd gathered, and a large party of military in ferocious looking caps, and abundance of hair upon their faces, who were regaling themselves at a table which had been liberally prepared for my Lord Mayor. We alighted, and prepared to do justice ourselves to the viands which were left, and several of us were in time to do our part to the remains of the feast, but the bell rang for the cars, and we hastened to our seats, and *remained for half an hour*, while the soldiers demolished the whole of the repast, wines and all! We thought this was rather rich for La belle France! but we took it as a very fair joke, and passed on. We arrived in Paris about 12 at night, and having taken the precaution to engage rooms some days previous to the fete, we found comfortable quarters, which very many were unable to obtain. The next morning Paris was opened up to us, with all its beauties and splendid palaces, churches, &c.

In the afternoon, or rather evening, 7½ o'clock, we had the dinner served up to some 500, in a style, that few can equal. The room itself was one of the most splendid I have ever seen—most gorgeously decorated, with splendid paintings, statuary of busts, lighted by

nearly 3,000 wax lights. No account can do justice to it. The dinner was most admirably got up, enough for all, a plate for each, and 300 French waiters, who did not wait for a call, but anticipated your every want, and studiously furnished to each the very best provided. After the dinner was concluded, a speech from the Prefect of the Seine, answering to our Mayors, was responded to by Lord Granville on behalf of the Royal Commissioners, and one from the President of the Municipal Council of Paris—was responded to by the Lord Mayor of London, and an adjournment was had to the other rooms of the hotel, where several thousands were assembled, to listen to the music of a concert which came off as soon as the dining room was arranged for that purpose. The afternoon of the next day, the Palace of Versailles, its ground, gardens and fountains were all opened to the guests and the public. The Palace founded by Louis XIV, is an immense structure, furnished in a manner the most costly and elaborate that can be imagined. Every room was ornamented with superb paintings of the Kings, Marshals, Constables, &c. of France, from its earliest history, down to Louis Philippe. The great victories of the Empire, from the earliest dates to the conquest of Algiers, and the battle of Navarino. The paintings of Napoleon's reign are among the most attractive, though one of the Algerine battles struck me as a picture that would bear study better than almost any other in this great collection. The palace is so extensive, and the rooms so numerous, that it took upwards of three hours to pass through it and catch even a glimpse of its many paintings and statuary. They have our American officers and statesmen of the Revolution—Washington, Hamilton, Franklin, &c., and the surrender at Yorktown is admirably given, with portraits from life of the French and American generals and officers.

The fountains were let to play at a cost of 10,000 francs. They are scattered in different directions over the entire grounds through the avenues of trees, very tastefully arranged, and more than a thousand jets were throwing up columns of water altogether, producing a scene the *tout ensemble* of which probably cannot be seen elsewhere, the world over. I could not but reflect as I sauntered through the palace, the garden and the grove, who built these splendid palaces, and who furnished the means. They were erected to idolize a man, who has passed away for ever. They were erected by the toil and sweat and blood of the people, who in those days were esteemed as fit instruments to live and toil and die merely to gratify human pride and ambition. May that day never arrive when our country shall be trampled down by the despot, erecting the monuments of his triumph upon the ruins of our free institutions!

After returning to town in the evening, we walked through the grounds and gardens of the Tuilleries, Champs Elysees, &c. Here we found, apparently, the whole population of Paris, engaged in every kind of amusement. Theatres, circuses, mountebanks, gaming tables, and lighter amusements, were all in full operation, open to all, and the people enjoying, to all appearances, this motly scene right well. On returning, we went through the Boulevard, the great fashionable promenade of the city. The most fashionable part of

this promenade is the Boulevard des Italiens. Here loungers of both sexes seat themselves and pass most of the day. The gaiety of this spot, until after midnight, exceeds all description. Chairs are placed in front of the splendid Cafés and Restaurants, which are let at two sous each. As we passed along we found throngs of gentlemen and ladies seated around little round tables sipping their coffee or wine, while crowds were pressing along on the wide sidewalk, and carriages rolling noiselessly, almost, over the nicely McAdamized streets. The streets are brilliantly lighted, as are the cafés, and the places of resort, and the whole presented an appearance the most enchanting that can be imagined.

The next day was a reception at St. Cloud by the President of the Republic. This is a spacious palace, similar in its character to Versailles, though not as extensive, though equally rich in its decorations, paintings, &c. and connected with which are many interesting recollections. It was the favorite residence of Marie Antoinette, Josephine, Maria Lousia, Napoleon, and Louis Philippe. The grounds are very beautifully laid out—fountains are particularly arranged, and play admirably; and the whole presents a combination of luxuries that would enable one, who otherwise was rightly prepared for it, here to enjoy himself to his heart's content, and also, to bless others in the free use of these splendid walks, and gardens, &c.

A dinner was served up here for 2,000, but only 500 could get into the orangerie, when it was laid out, so that great scrambling was exhibited for the feast which was long delayed, and it was more than two hours before the most modest were privileged with eating even a morsel. But as all things must have an end, this was ended late in the night, and the wearied out visitants, returned within the walls to slumber.

At each avenue out of the city are gates, at the Barriers, as they are called. There guards are stationed to receive the tolls for everything, almost, that pass into the city. So at Versailles, as we approached the barrier, being in a private carriage, we were stopped and asked if we had any thing liable to duty, before we passed in. I believe this custom exists in all the principal towns in the kingdom.

The next day I visited with Mons. Vattermare, some of the public offices, connected with the Bureau of Commerce and Agriculture, and found the heads of the departments very attentive, and anxious to learn much about our county. B. P. J.

WHAT CAUSES THE DIFFERENCE?—The *North British Agriculturist*, speaking in reference to the difference in the quality of the flesh of different breeds of animals, says,

As regards the Black-faced Cheviot, and South-Down breeds of sheep, the West Highland, and Angus breeds of cattle, the flesh of these, if not more nutritious is at least palatable. The Short-horns, Herefords, and Devons, when fattened at a proper age produce beef of excellent quality, but is often deficient in that finely flavored taste which distinguishes such breeds as the West Highland. How much of this is owing to the nature of the breeds, or to the food upon which they are reared, are questions which we think have not received that attention from scientific men which the subject demands.

University of Albany.

Department of Scientific Agriculture.

The Trustees of the UNIVERSITY OF ALBANY, convinced of the vast importance which they should attach to the subject of improvement in Agriculture, have made this an object of special attention in their first steps toward the organization of a complete Scientific School.

Nearly all of our more intelligent farmers are now sensible that their profession is one which should be studied; that it is a profession in which the specially educated man occupies the same position of advantage that he does in every other pursuit of life. The old cries of opposition to all theories, and of condemnation against all books, are now fast yielding to an eager desire for instruction, and to at least a partial belief in the efficacy of science. Indeed some farmers go much farther than this, in expecting results that are at present certainly not within the range of possibility, and that there is little reason to suppose will ever be realized.

Instruction then is needed to supply what is called for by one class, to confirm the still doubtful minds of another, and to sweep away the too extravagant expectations of a third: It is also needed to enlighten the minds of a class, still it is to be feared exceedingly numerous, who look upon all progress with incredulity and suspicion, and who frown indignantly upon the idea that any one can impart new light to them in the way of their own business. Under the influence and the practice of such men as these, a great portion of our land is now deteriorating under cultivation, and will continue to deteriorate, until it reaches at last the condition of certain tracts in some of our older States, where the crop does little more than return the seed sown. Every year of the system now pursued by vast numbers of our farmers, increases by an immense amount, the labor and the expense that will be necessary in restoring the land again to a proper state of fertility.

That this evil is felt, that it is endured with impatience, is attested by the great numbers of active and influential societies for the improvement of Agriculture, in so many parts of the country; by the increasing patronage extended to agricultural books and periodicals; by agricultural surveys, past or in progress; and by the numerous efforts toward the establishment of schools where scientific agriculture shall be the end and aim of study.

The reasons which operate so strongly in recommending Albany as the proper place for the location of a great Scientific School, tell with redoubled force when the organization of the Agricultural department is considered. The capital of the greatest, most wealthy, and most powerful State of the Union; a State, too, more fully alive than any other to the cause of Agricultural improvement; the nucleus of the most powerful and influential Agricultural society of the Union, a society whose annual shows bring together a greater concourse than those of any similar society in the world; the most desirable and accessible position with regard to the New England States, and on the great lines of communication North, South, and West, it presents a combination of advantages that may be properly called unequalled.

In view of such arguments as these, in view of the often expressed desire of the people of this State for at least the commencement of an institution which should have some special reference to the wants of its farming population, the Trustees have decided to go as far during the present season, as their means and the short time available for organization will allow.

They, therefore, announce a course of Lectures by Prof. JOHN P. NORTON, now for some years in charge of the Department of Scientific Agriculture in Yale College. Prof. Norton will commence his course in the first week of January, and continue it during the ensuing three months. This course is designed especially for the practical man, and the subjects are intended to be presented in such a manner as to be perfectly intelligible to those who have never before attended to such studies. A complete and detailed outline of the general connec-

tions between science and practice will be given, and will be fully illustrated by experiments.

The substances of which the Soil, the Plant, and the Animal consist, will be shown and their properties described. The Soil will call attention first, with regard to its composition in different localities, its resulting fertility or barrenness, the means of improving it by drainage, the composition and effect of manures applied, and the most economical methods of fertilization.

To this will succeed the Plant, with an account of its structure in various parts, its composition so far as our crops, common trees, and fruits, are concerned, with the various theories of rotation; in this part of the course the nutritive value of the different crops is dwelt upon at considerable length, and illustrated by very full tables.

To such statements a notice of the Animal economy will naturally succeed, prefaced, however, by two or three Lectures on butter and cheese, giving the most authentic theoretical and practical information on all points connected with their manufacture, preservation, &c. After this come the various theories of feeding and fattening animals, with references to numerous practical examples.

By such a course the various beautiful theoretical and most important practical connections, between the soil, the plant, and the animal, will be distinctly brought forward, and impressed upon the mind of the hearer. Recitations and conversational meetings will be held in connection with the lectures, for such as choose to attend them.

Prof. JAMES HALL, of the N. Y. State Geological Survey, will lecture at the same time on Geology, and so much of Mineralogy as is necessary to the comprehension of his subject. This course will have especial reference to the bearings of Geology and Mineralogy upon agriculture, and other economical interests. The practical advantages of the connection of geological with agricultural science, will be briefly pointed out in the course by Prof. Norton; in this course these subjects will be more fully elucidated, and the student, aided by the State collection, and the very fine private one of Prof. Hall, will have an opportunity of obtaining such knowledge as will be of much value in after life, whatever may be his profession, and will besides be productive of infinite pleasure, as he may have occasion to visit various sections of our country. Geological and mineralogical information, when possessed, is always called into frequent action, and gives its possessor weight and influence in any community.

A course on Entomology, with special reference to the injurious or beneficial action of insects on vegetation, may also be expected. This course will be by Dr. HENRY GOADBY, formerly of the Royal College of Surgeons, London. This gentleman will be able to illustrate his course by a collection of specimens altogether unrivalled, and exhibited to the class by means of the oxy-hydrogen and the compound microscope. The advantages to be derived from such a course are entirely obvious, and have, moreover, been hitherto quite unattainable in this country.

Arrangements are in progress which will enable students to attend a course on Engineering and Surveying, a knowledge of which subjects would prove highly valuable and also remunerative to every practical farmer.

Prof. COOK, Principal of the Albany Academy, will deliver a course of lectures on Elementary Chemistry, to such students of this department as may desire it; the course to be both experimental and practical.

It would seem that any practical man must see the advantage of attendance upon such a course as has been dwelt upon in the foregoing portion of this circular. Science is brought forward and inculcated, not to supersede practice, but in its aid. The information given is upon points which are really of vital importance, a knowledge of which ought to be looked upon as absolutely essential to every farmer. These Lectures, too, come at a period of the year when comparatively little is doing on the farm, and may thus be attended without neglecting any material interest.

The importance to a young man of thus residing for a time within the atmosphere of a literary institution, can

scarcely be overestimated. He comes in contact with others who are also bent on improvement, and has almost unlimited access to books; he learns to think for himself—to see that a practice is not necessarily right because it is old; he becomes favorably disposed to the adoption of every useful improvement, and the whole circle of his ideas and intelligence is permanently enlarged; he makes his profession an interesting study, not a mere routine of hard work, and while better paid for exertion, as superior well-directed knowledge always is, he takes a higher rank in society, as a man understanding his own business better than those who have not enjoyed like opportunities.

It is intended to offer free tickets to the courses on Scientific and Practical Agriculture, on Geology and Mineralogy, on Entomology, and probably on Engineering, Anatomy and Physiology, to two young men in each senatorial district of the State, the tickets to be at the disposal of the several Senators. The same privilege will be extended to each of the Colleges in the State, the students to be selected by the faculty of each College from the graduating class of the previous year. It is hoped that this liberality may be continued in subsequent years, that in this way sixty-four young men may be annually aided and sent out to all parts of the State, to disseminate the valuable information which they have obtained. The tickets for the Agricultural Lectures will be \$10; for the Geological \$10; for the Entomological course \$5. All are payable in advance, but the student only attends such as he may select.

The price of board in respectable families varies from \$2 to \$2.50 per week, exclusive of washing. Two or more young men, by clubbing together, can hire a room respectably furnished, for the purpose of lodging and study, for fifty cents each per week, and can furnish themselves with food, fuel, light, and everything except washing, at a total expense of from \$1.37½ to \$1.50 per week in winter.

For farther information apply either to Prof. JOHN P. NORTON, New-Haven, Ct., to Prof. JAMES HALL, Albany, or to B. P. JOHNSON, Esq., Secretary of the N. Y. State Ag. Society, Albany.

Another circular, in pamphlet form, stating the general objects and plan of this University at length, will soon be issued, and can be had on application as above.

The annual course of Lectures in the Albany Medical College, commences on the first Tuesday of October, and continues sixteen weeks. The corps of Lecturers, eight in number, is full and able, the museum unsurpassed in this country, and the other facilities of a high character. The full fee for all the courses is \$70. Graduation fee \$20.

On the third Tuesday of December will commence the first course in the Law Department of this University, under the charge, as professors, of Hon. Ira Harris, L. L. D., Hon. Amasa J. Parker, L. L. D., and Amos Dean, Esq. With the advantage of one of the best Law Libraries in the country, of excellent teachers, and the holding of frequent courts, it is obvious that this Law School will offer unusual facilities to the student. The course will continue sixteen weeks, the fee for the entire term being \$40. Full circulars may be obtained from Prof. Amos Dean, Albany.

PHOSPHATE OF LIME.—Mr. JOSEPH HARRIS, of Rochester, states in the *Genesee Farmer* that the mineral phosphate of lime used in England as manure, contains 50 per cent of phosphate, and is sold when prepared for use with sulphuric acid, at \$25 per ton. The phosphate of lime at Crown Point, in this state, contains, as we have before stated, according to the analyses of Prof. EMMONS and Prof. NORTON, from 80 to 90 per cent of phosphate. This will afford a criterion of its value compared with the English article. Mr. HARRIS states that he has seen the prepared phosphate applied to various crops. Its effects were greatest on turneps—often increasing that crop four fold. Its effects on leguminous plants, clover, beans, &c., were beneficial; on wheat, but little benefit was derived. He suggests that it may prove of great use in tobacco culture.

NOTES FOR THE MONTH.

ACKNOWLEDGMENTS.—Communications have come to hand, since our last, from H., M. S. Bidwell, T. B. Miner, C. E. Rappe, F. Partridge, Solomon Leonard, An Inexperienced Fruit-grower, J. J. M., D. E. C. Braman, B. H. Andrews, A Young Observer, T. F. Eyre, J. W. Gray, Prof. J. P. Norton, B. P. Johnson, D. T., Oliver Moore, L. Durand, H. C. W., W. G. Edmundson, Samuel Logan, J. Conant, A. C. D., B., S., A Subscriber.

BOOKS, PAMPHLETS, &c., have been received as follows: Transactions of the York county (Maine) Ag. Society, for 1847, '48 and '49.—Half a dozen new Chrysanthemums, from GEO. G. THORBURN, Esq., Astoria.—Muck Manual for Farmers, by Samuel L. Dana, 3d ed., revised and enlarged, from the publisher, J. P. WALKER, Lowell.

ALBANY UNIVERSITY.—It may not be known to all our readers, that an institution under this name was organized several months since. It comprises three general divisions: Law, Medicine, and a School of Theoretical and Practical Science, which includes Agriculture. In reference to the latter department, we publish a circular in this number, to which we invite particular attention. The department is under the charge of Prof. P. NORTON, who, it will be seen, announces a course of Lectures on Scientific and Practical Agriculture, to commence the first week in January next, and to continue during the ensuing three months. We think this institution presents peculiar advantages for the acquirement of knowledge in all branches embraced by its general design. To the young farmer, especially, the School of Theoretical and Practical Science, offers facilities superior to any to be obtained elsewhere in the country. In addition to the lectures of Prof. NORTON, it will be seen that the labors of Prof. HALL have been secured in reference to the economical illustration of the sciences of Geology and Mineralogy, and also the services of Professors GOADBY and COOK, on Entomology and Elementary Chemistry.

ASTRONOMICAL OBSERVATORY.—We learn that nearly \$20,000 have been subscribed towards the establishment of an astronomical observatory in this city. Of this sum, \$10,000 has been generously donated by Mrs. C. E. DUDLEY. The land for the site has been given by STEPHEN VAN RENSSELAER, Esq. The institution will be placed under the charge of the distinguished astronomer Professor MITCHELL, and will form a department of the Albany University.

FLOUR FROM MEDITERRANEAN WHEAT.—We have received from Dr. CRISPELL, of Hurley, Ulster county, N. Y., a barrel of flour manufactured from this wheat. It has been tried in most of the various forms of cookery, in all of which it gives entire satisfaction. It evidently contains a larger proportion of gluten than ordinary flour,—in popular language it is "stronger,"—absorbs more water, and makes more bread from a given quantity of flour. The bread has a slight orange tinge, but is light, and of peculiar sweetness. It is only necessary

that the miller and cook understand their business, for this flour to be highly esteemed.

SHEEP FROM AFRICA.—Several papers have spoken of an importation of sheep from Africa, lately made by a gentleman in Salem, Mass. They are said to be distinguished by "the enormous fatness of the tail," &c. Some suppose they are of a race not heretofore described; but we see nothing in the description of them, indicating their difference from the broad-tailed African sheep, which were introduced into this country fifty years ago.

LARD OIL.—There are said to be in Cincinnati, forty manufactories of lard oil, which use 15,000,000 pounds of lard per annum. Of this, 5,120,000 pounds is converted into stearine, leaving 4,480,000 pounds, equal to 1,110,000 gallons of oil. The hogs of our western states will soon come into strong competition with the whales of the Pacific Ocean.

THE AUGUSTA ROSE.—We have received a specimen flower of this new climbing rose, from Messrs. THORP, SMITH and HANCHETT, of Syracuse. It is a fine rose, emitting an abundant and delightful fragrance. Messrs. T., S. & H. say—"It is a free bloomer in clusters of three to six, and the foliage is magnificent." We presume it will be an acquisition.

☞ **MESSRS. JAS. D. and WM. H. LADD**, of Richmond, Jefferson county, O., have lately purchased in Vermont a valuable colt. He was bought of Mr. C. M. Fletcher, of Orwell, Vt.; was foaled May 17th, 1848; by Black Hawk; dam, a fine mare, showing much of the Morgan character, now owned by Mr. WICKER, of Ticonderoga, N. Y. We had the opportunity of seeing this colt as he passed through this city on his way to Ohio, and congratulate Messrs. L. on their success in obtaining an animal of rare excellence. We cannot doubt that he will prove an important acquisition to that section of the country.

The VERMONT STATE FAIR was held at Middlebury Sept. 10. It is spoken of as eminently successful. A notice of the Fair was expected from a correspondent, but has not come to hand. We shall speak of it more at length next month.

WIND-POWER FOR SAW-MILLS—MACHINERY FOR MAKING CASTOR OIL.—A correspondent in Texas wishes information in regard to the best application of wind as a motive power for saw-mills; also in regard to the best mode of manufacturing oil from the castor bean. Any person giving information on these subjects, through our pages, would confer a favor.

ALBANY AND RENSSELAER HORT. SOCIETY.—The annual show of fruits of this Society, took place on the 10th and 11th of September. It was one of the best exhibitions that has taken place since the society was organized. In plums and pears the display was very fine, and in flowers and vegetables there was a highly creditable show, considering the severe drouth. Some new varieties of plums were brought out, for two of which premiums were awarded. One of these was a light colored plum, produced from seed of the Green Gage, by ISAAC DENNISTON, and named "Dorr's Favorite." It is of excellent quality. Mr. D. also exhibited another seedling of the Green Gage, so exactly resembling the

parent as to be pronounced identical. The other seedling for which a premium was awarded, was raised by WM. HALLENBAKE, of Greenbush. It is of very large size, fully equal to the Red Magnum Bonum, which it very closely resembles in size, shape, and color, but is far superior in quality, and was considered equal to the best dark-colored plums.

IMPORTATION OF JERSEY COWS.—We are informed by Hon. B. V. FRENCH, of Braintree, Mass., that the trustees of the Massachusetts society for Promoting Agriculture, have lately imported from the Isle of Jersey, several fine cows of the Jersey, or Alderney breed. Mr. F. says, "I have seen one of them, which was purchased for Mr. GEO. R. RUSSELL, of Roxbury, and I must say that this animal more than met my expectations. She is good tempered, and of handsome form."

GOOD FLEECES.—Mr. B. H. ANDREWS, of Waterbury, Ct., writes us that he has a flock of "Escorial Merino" sheep, (he does not tell the number,) which gave an average yield of "four pounds and nine ounces of clean washed wool per head." He states that the fleece of his pure "stock buck" weighed eight pounds and three ounces, and that when sorted by the manufacturer to whom it was sold, about two-thirds of it went into the grade called "pick-lock."

WHEAT CROP OF WISCONSIN.—While almost every part of the country has produced the present season a bountiful crop of wheat, we are sorry to learn that over a large portion of Wisconsin, the crop was almost an entire failure. This, in addition to the partial deficiency of the previous year, has involved many of the farmers there in serious difficulties—especially those who were in debt for improvements (buildings, fences, &c.) which they had commenced. They will doubtless find their accounts in directing their attention to a mixed husbandry, or a variety of products.

CRANBERRY VINES.

100,000 Cranberry plants—(suitable for transplanting at any place south of New-York, this fall)—and can be forwarded to any part of the Union safely packed. For sale by
Oct. 1, 1851—1t. F. TROWBRIDGE, New-Haven, Ct.

PEAR STOCKS.

THE subscriber has for sale at his nursery in Ferrisburgh, Addison county, Vermont, TWELVE THOUSAND PEAR STOCKS, from 10 to 24 inches high and of stocky growth. They can be sent by Railroad or Steamboat to any part of the Union.

R. T. ROBINSON.

Ferrisburgh, Vt., Oct. 1—1t.*

Splendid Farm in Ohio for Sale or Rent.

WE have a splendid farm for sale or rent, containing about 300 acres. It is situated 21½ miles west of Columbus, and within 2½ miles of London, the county seat of Madison county. An excellent McAdamized road, from Columbus to Xenia, passes through it. The access to market either east or south, is easy and quick. The railroad from Cincinnati to Cleveland has a depot at London, 2½ miles from it.

About 125 acres of the land are cleared and under good improvement. The balance is well timbered, and the whole is under fence. It is well watered, having springs or streams in abundance.

On it is a substantial brick dwelling house and two other comfortable tenements. The orchard contains about 200 apple, peach and pear trees. The whole farm is well adapted for raising grain, or corn, and would make an admirable dairy or stock farm.

The proprietor has made arrangements in the west to go into another kind of business, and will sell the above farm on reasonable terms. If not sold by winter the above farm will be rented for a series of years.

For terms apply at this office or to

VOMBAUGH & WHEELER,
Real Estate Agents, Columbus, O.

Oct. 1—4t.

WALWORTH NURSERY.

IN addition to his usually extensive assortment of Fruit Trees, the subscriber has 5000 extra large size Apple Trees, mostly Roxbury Russet—also, a few thousand, 3 years old, Pears on Quince. Trees in large quantities, sold at very reduced prices.

T. G. YEOMANS,
Oct. 1—1t.* Walworth, Wayne county, New-York.

BLOODGOOD NURSERY,

Flushing, L. I., near New-York.

KING & RIPLEY, Proprietors, have on hand their usual large supply of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Gooseberry and Currant bushes, Grapevines, Hedge plants, Raspberries, Strawberries, &c. Their Trees are of large size, thrifty growth and well rooted, and we can furnish nearly all the new varieties. Orders sent to them at Flushing, L. I., or 244 Pearl st., New-York, (where catalogues may be obtained gratis,) will receive immediate attention, and the trees packed with great care for transportation.
Oct. 1, 1851—1t.

Fruit and Shade Trees.

FOR sale at Mount Ida Nursery, Troy, N. Y., a choice variety of FRUIT TREES, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds.

Currants, Gooseberries, Raspberries, Grapevines and Strawberries, of the choicest varieties.

Also a good variety of shade trees, consisting of Scotch Elm, English Sycamore, Linden, Horse Chestnut, Mountain Ash, Larch, Ash, Oak, &c. Evergreen Privet and Buckthorn, for Hedges.

Rhubarb and Asparagus Plants, &c. Catalogues and other information can be had of the Nurseryman. JOSEPH CALDWELL.
Troy, Oct. 1, 1851—1t.

FRUIT TREES.—SPECIAL NOTICE.

THE PROPRIETOR is desirous of disposing of a large portion of the Fruit Trees in his Nurseries at Hawthorn Grove, Dorchester, Mass., with a view to improvements on the grounds the coming season.

The collection of Pears, Cherries, Plums, and other Fruit embraces almost every approved sort of American or Foreign origin extant, and is scarcely surpassed in excellence or extent of variety.

Special Cultivation has been bestowed on the Pear, and many thousands of thrifty vigorous trees are now ready for transplanting.

Extra size Trees, with fruit buds, either on the quince or pear stock, and such as will soon commence bearing, can be supplied at moderate prices.

Also all the new varieties of Pears, Cherries, Plums, Raspberries, Currants, Strawberries and other fruits, and at rates less than is generally charged for novelties.

Scious for exportation and the home trade can be had from fruit bearing trees, thereby ensuring correctness of nomenclature.

Selections, where desired, founded on the experience of many years, will be made by the proprietor, and which will seldom fail to please the correspondent.

Address,—The Superintendent of the Nurseries, at Hawthorn Grove, Dorchester, Mass., to the care of the subscriber,

MARSHALL P. WILDER, No. 2 Pearl st., Boston.

N. B.—Grove Hall Coaches leave No. 11 Franklin street, four times each day.
Oct. 1—1t.

Southern Fruit.

Hopewell Nurseries, near Fredericksburg, Va.

THE proprietor offers for sale a large stock of Fruit and Ornamental Trees, Evergreens, Roses, &c. His stock of Apples is very large, well grown and thrifty. Having witnessed the evil of circulating numerous Northern Fruits, without proper regard to proving their quality, and adaptation to a Southern climate, the proprietor has looked more to the South for his winter Apples, and has introduced many superior varieties, perfectly adapted to our long, hot summers, and keeping until April and May.

Also, a large stock of Pears, Cherries, Peaches, Plums, Apricots, Grapes and other fruits, Roses, &c., his prices are low, for particulars see Catalogue, which will be sent to all post-paid applicants; trees packed in the best manner, and shipped according to orders,
Oct. 1, 1851—1t.

H. R. ROBEY.

D. Prouty & Co.'s Premium Plows.

THE subscriber keeps on hand for sale, these justly celebrated Plows.

No. 5½ received First Premium for old land and stubble plowing, at the great trial of plows by the New-York State Agricultural Society, in 1850.

No. 40 has been got up within the past year, and was designed mainly for furrows 30 inches wide, and 7 inches deep. It has been thoroughly tried, and with results perfectly satisfactory. It is undoubtedly the most perfect plow ever constructed. It has lately received a medal at the World's Exhibition, in the trial of plows not made in Great Britain, the required furrows being 9 inches wide and 6 inches deep.

Also, for sale the MICHIGAN SOD AND SUBSOIL PLOW, designed for deep plowing and thorough pulverization, for which it is considered unrivalled. It received a special premium, equal to the highest offered, at the trial by the State Agricultural Society, 1850.

PRICES—No. 5½, with draft-rod and wheel,..... \$12 00
without draft-rod, .. 11 50
No. 40, with draft-rod, and wheel,..... 11 50
without draft-rod, 10 50

WILLIAM LANSING, Greenbush,
opposite Albany.

Oct. 1—1t

NEW STRAWBERRY, McAVOY'S SUPERIOR.

THIS is the Strawberry which has just obtained the premium of \$100 offered in 1847 by the Cincinnati Hort. Society for a new seedling superior to any in cultivation. It is the largest sum ever awarded for an American fruit. Mr. Downing in the Aug. number of the Horticulturist, says: "As Cincinnati is noted as the finest Strawberry market in the world, and as the Horticulturists there are especially acute in Strawberry lore, we naturally look for great merit in this prize production doubly endorsed." The Fruit Committee in their report, speak of it as follows: "McAvoy's No. 12 Seedling, we propose to call McAvoy's Superior; the specimens exhibited are superior to Hovey's Seedling, or any other strawberry that came under the examination of the committee, and is entitled to the premium of \$100 offered by this Society in 1847."

Mr. McA. writes us that he has cultivated this fruit for several years, has tested it thoroughly, and that it is admitted by all who have seen it to be the most superb strawberry ever produced. Strong plants, now ready, \$1.50 per doz.

Three dozen fine varieties of Strawberry, including Burr's New Pine, Richardson's Seedlings and all the new and best old varieties, with the above, for \$12. Address, **B. M. WATSON,** Oct. 1, 1851—1t. Old Colony Nurseries, Plymouth, Mass.

SYRACUSE NURSERIES.

THORP, SMITH, HANCHETT & CO., proprietors, Syracuse, N. Y., having 100 acres closely planted to Fruit and Ornamental Trees, Roses, Shrubbery, Green House Plants, &c., we shall have for sale the coming season, a most extensive stock of Nursery commodities, not to be excelled in size and beauty by those of any establishment in the Union. Nurserymen, Amateurs, Orchardists, and Venders, are earnestly invited to call, examine and judge. Our stock of

STANDARD FRUIT TREES,

Comprises all of the best varieties of Apple, Pear, Plum, Cherry, Peach, &c., of such sizes and quality as no contrast can disparage. We have also, both by importation and of our own cultivation,

PYRAMIDAL, OR DWARF TREES,

Of the Apple, Pear, and Cherry, designed for compact planting, being thereby especially desirable for small lots, Gardens, &c., as well as generally so, by reason of their habit of early bearing. We have all of the approved varieties cultivated in this form, from one to four years old—many of the Apples and Pears being now in bearing.

OF THE SMALLER FRUITS,

Currents, Gooseberries, Raspberries, and Strawberries, we are always fully supplied with all the best old and new sorts.

OF ORNAMENTAL TREES,

For the street border, and lawns, our stock is very large. Our Horse Chestnuts and Mountain Ash are particularly noticeable for their luxuriant growth and surpassing symmetry of form. They uniformly excite admiration.

Evergreen Trees, in great variety, new and rare, including Lebanon and Deodar Cedars, 4 to 6 feet high; Japan Cedars; Spruces; Junipers; Taxodiums; &c.

Paeonies—A splendid collection of both tree and herbaceous varieties.

Dahlias—One hundred and fifty selected sorts, comprising the finest English prize flowers, with all the best in the U. S. 25 to 50 cents each for whole roots.

Phloxes—Over fifty of the choicest kinds.

Roses—A most extensive assortment, comprising 6000 plants of the best varieties, and all the new acquisitions; amongst them the new Perpetual Striped Moss, Herman Kegel, the Hybrid Perpetual, Caroline de Sausel, Gen. Cavignac, Gen. Changarnier, &c.

Bulbous Roots—A choice collection daily expected from Holland, consisting of Double Tulips, Hyacinths, Crocuses, &c.

Plants for bedding out, of every description; **Vines, Climbers, &c.** **Cherry, Apple, and Pear Seedlings; Buckthorn,** two and three years old, very strong plants.

All of which will be sold as low as at any other establishment, and in many cases lower, either at wholesale or retail.

We are now issuing a new edition of our Catalogue, containing full information of our productions, terms, prices, &c., embracing, 1st, a general descriptive catalogue; 2d, a full catalogue of select Green House Plants; and 3d, a special catalogue of Dahlias, Phloxes, and Bedding out plants; which will be sent gratis to all post-paying applicants.

Mr. H. Warren, proprietor of the Agricultural Store, 315 River Street, Troy, N. Y., is our authorized agent to receive orders. **THORP, SMITH, HANCHETT & CO.**

Syracuse, Oct. 1—2t.

A Choice Farm in Ohio for Sale,

LOCATED in Stark county, three and a half miles south of Massillon, containing three hundred and three acres about two hundred and twenty-five acres cleared, and in a high state of cultivation. The balance in timber, principally white oak.

The improvements consist of a frame tenant house and barn, a Gothic Cottage, built of stone, beautifully located, commanding a view of the whole estate; a thrifty young orchard of choice apple trees, &c.

The cleared land is a level plain, soil of a superior quality for the production of wheat, free from stumps, and all obstructions to a good system of cultivation. The timber land is what is termed rolling, and elevated about thirty feet above the plain. The Erie and Ohio canal pass through the farm, forming the western boundary, and the Pennsylvania and Ohio Railroad within three miles. In short, it is one of the most desirable estates in Ohio.

The owner being permanently located in a foreign country, is the reason for the farm being offered for sale.

For further particulars direct, post-paid, to the address of the subscriber, **C. NESENER,** Massillon, Ohio. Oct. 1—4t.

STATE AGRICULTURAL WAREHOUSE.

EMERY'S, Kell's, and Wheeler's Horse Powers and Threshers. Hovey's, Clinton's Tower's, Sinclair's and Botis, Straw and Stalk Cutters.

Vegetable Cutters for slicing up potatoes, beets, &c.

Corn Shellers of various patterns.

Fanning Mills of Bryan's make, this is considered one of the best Mills in use.

Clinton's, Bamborough's and other makes.

Prouty & Mears' premium Plows of all sizes.

Minor & Horton's and Eagle Plows.

Harrows of Geddes, Triangle and Scotch patterns.

Paring Plow, a superior article made under the direction of Prof. Mapes.

Subsoil Plows, of Weirs pattern, which is half the draft of the old style.

Ox or Road Scrapers, Seed Sowers, Cultivators, &c.

Field and Garden Seeds.

Fertilizers, such as Guano, Bone dust, Bone Coal, Plaster, Poudrette, Bone Manure and Sulphate of Soda. For sale by

GEO. H. BARR,

Oct. 1—1t.

No. 25 Cliff street, New-York.

NEW INVENTION.**Wheeler's Combined Thresher and Winnow.**

(See engraving on page 338.)

IN the successful completion of this Machine, the long desired object is attained of Threshing and Winnowing grain with but two horses, and at the same time with satisfactory and desirable speed and despatch. The *Combined Thresher and Winnow* is so simple in construction that the works are all driven by two hands, which include the one which gears it to the horse power. There is consequently but little friction produced, and the liability to get out of order, which complicated Machines are subject to, chiefly avoided. The *Thresher and Winnow* is well adapted to Field Threshing, being light and compact, and requiring but little time to load and unload it. The whole Machine, including the Horse Power, is conveniently carried on a two horse wagon, the weight being less than 2500 lbs., and can be unloaded and set in readiness to work in less than 30 minutes and re-loaded ready to move in the same time.

Several of these Machines have just been put in operation in different sections of New-York, and some of them by men who have heretofore used the most approved kinds of Machinery for Threshing and Cleaning, but which they have thrown aside and taken ours, after having thoroughly tested it. They are Threshing and Winnowing about 150 bushels of Wheat per day, and twice that quantity of Oats, and are doing their work in the most satisfactory manner. Four men and two horses are all that are required to work the Machine.

We have spent much time and money in accomplishing the desirable object of Threshing and Winnowing at one process with so small a power as two horses and at the same time with sufficient speed for all practical purposes and we now offer the Farming Community this machine, as the result of our efforts with the most entire confidence in its success. Orders addressed to the subscribers at Albany will be promptly attended to.

Oct. 1, 1851.

WHEELER, MELICK, & CO.

To Nurserymen, Gardeners, and others.

THE subscriber wishes to sell his farm, of 68 acres, situated in the beautiful town of Northampton, Hampshire county, Mass., located about half a mile from Dr. Chas. Munde's celebrated Water Cure Establishment; also about half a mile from half a dozen Silk, Cotton, Button and other manufacturing establishments, and about two miles from the Depot of the Connecticut River Railroad. The main buildings are a good ice-house and valuable barn, with two tenant houses, one-quarter of a mile distant; all of which are nearly new. A portion of the land is in a very high state of cultivation, the grounds are laid out in modern style, and are planted with shrubbery, and a large number of choice young Fruit and Ornamental Trees. Plenty of wood and water on the premises.

It is considered one of the pleasantest and best places in the western part of the town; being a desirable location for a Gardener or Nurseryman, and a good place for a Livery Stable, one having been kept there for the last six years. Some 8 or 10,000 young Fruit Trees, of choice varieties, and very thrifty, will be sold with the place if desired, and the nursery business given up to the purchaser (a portion of the trees now fit to transplant.)

Any number of acres, from six and a half upwards, will be sold with the main buildings, at a very low price. From \$800 to \$1,500 would be required down; the balance might remain on mortgage for a long time if desired,

GEO. A. HILL.

Northampton, Mass., Oct. 1—1t.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va.

R. H. ARMISTEAD,

Aug. 1—3t.

Executor and Com.

NEW AND VALUABLE PLANTS,

For the Green-House, Nursery, Garden, and Pleasure Grounds.

B. M. WATSON, Old Colony Nurseries, Plymouth, Mass., offers for sale a very complete assortment of plants, including all those of recent introduction. Carriage of all Packages paid to Boston.

Dwarf and Standard Fruit Trees of the best sorts, very thrifty and well grown, and every sort of **Stocks for Fruit Trees**, at the lowest rates.

Currants, Gooseberries and Raspberries, in great variety.

Strawberries—Burr's New Pine, Richardson's Late, Early and Cambridge, Black Prince, Jenney's Seedling, Fay's Seedling, British Queen, Lord Spencer, Swainstone, Boston Pine, Hovey's Seedling, Burr's Columbus, Burr's Rival Hudson, Ellwanger & Barry's Genesee, Monroe, Climax and Orange Prolific, Keen's Seedling, Deptford Pine, Wiley's Seedling, Iowa, Methven Scarlet, Hudson, Crimson Cone, Prince's Scarlet, Unique, White Bush Alpine, Duke of Kent, Aberdeen Beehive, Large Early Scarlet, Bishop's Seedling, Old Pine, Buist's Prize, Prolific Hautbois, Dundee, Myatt's Princess Alice Maud, and Myatt's Prolific, at low rates.

English Walnuts, Spanish Chestnuts, Filberts, Medlars, Quinces, Mulberries, Figs, Grapes, &c. Diana Grape, &c.

Seedling Rhubarb, from Early Scarlet, Myatt's Victoria, Tobolsk and Giant, \$3 to \$10 per 100.

Ornamental Trees, including many new and curious species and varieties of Azalea, Esculus, Ash, Beech, Birch, Cherry, Chestnut, Elm, Hawthorn, Laburnum, Linden, Magnolia, Maple, Oak, Plane, Willow, and other genera. A few hundred of the English Oak, (a fine tree, bearing immense acorns,) from 6 to 12 feet and finely grown. A few hundred extra fine European Mountain Ash, 9 feet. Also all the new and rare Conifers.

Young Trees, from 4 to 5 feet high, in great variety, from \$3 to \$12 per 100, of the finest varieties for Nurseries or Young Plantations.

Ornamental Shrubs, including among other new and fine sorts, Weigela rosea, Forsythia viridissima, Lonicera Ledebourii, Ribes Beatonii, Ribes sanguineum flore pleno, Ribes rubidum, Ribes atrosanguineum—*Spireas*, prunifolia, Lindleyana, Douglassi, and Reevesii, Mahonia aquifolia—*Lilacs*, Enodi, Sangeana, Valetteana, Chinense, grandiflora, Chas. 10th, Josikea, and others, Cydonia sinensis.

Hardy Vines and Climbers. Ivy, Wistaria sinensis and speciosa, Periploca graca—*Clematis glauca*, azurea grandiflora, bicolor, pedicellata, flammula, montana, nepalensis, odorata—*Lonicera*, Magne-villi, flexuosa, japonica, etrusca, italica, coccinea, Virginia Creeper, White Jasmine, Climbing roses.

Calystegia Pubescens. This new and beautiful climber, recently introduced from China, by Mr. Fortune, proves perfectly hardy in New-England, having stood in the grounds here two winters, without any protection whatever. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object through the summer months, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental, planted like the Verbenas, in patches, and is very effective in young plantations, trailing prettily on the surface, and running among the lower branches of the trees in a very picturesque manner. It is particularly suited for Cemeteries and Public Gardens. Plants in pots, \$3 per dozen,—Tubers for 100 plants, \$3. Sent by Mail or Express at any season, with direction.

Climbers for the Border or Green-House. Passiflora fragrans, Maurandia alba, rosea and Barclayana, Thunbergia grandiflora, Manettia glabra, Lophospermum spectabile Ipomea Learii, and ficifolia Physianthes albus.

New Verbenas, imported this season. Heroine, Madame Clovet, Adile, Sir Seymour Blanc, Morpheus, Talleyrand, Lady of the Lake, Malvina, Rubicon, Favorite, Eclipse, Clotilde, Phæton, Madame de Gournay, Beauty of Rye, Arcadine, Sunset, Souvenir, Captivation, Snowflake, Wonderful, Phydias, Paul and Virginia, Royal Purple, Striped Eclipse, Graciosa, Gen. Brea, White Perfection, \$3 per doz. Also, all the best of previous years, at \$1.50 per dozen—as Reine du Jour, Iphigenie, St. Margaret, Defiance, Boule de feu, &c. &c. The new Verbenas are very superior flowers, and are quite different in style to the older sorts.

New Fuchsias. Spectabilis, Serratifolia, Acteon, The Rajah, Nymph, Purity, Perfection, Dr. Jephson, Eliza Miell-z, White Perfection, Newberry's Delicate, Gen. Negrier, Dodd's Magnificent, Sir Henry Pottinger, Lord Nelson, Beauty of Leeds, Yorkshire Eclipse, President Porcher, Elegantissima, Beauty of Salisbury, One in the Ring, Cleopatra, Gaylad, flavescens, Goliath, Acantha, Napoleon, Mrs. Milbank, Chauvierii, Chateaubriand, Sir John Falstaff, Striata, \$5 per dozen. The collection of Fuchsias is very fine, and contains all the really valuable varieties.

New Chrysanthemums. Aydee, Brez, Boisgerard, Matricarioides, Bianca, Daphne, Lutescens, Charlemagne, Malvina, Calebasse, Snowflake, Brinda, Orion, Temple de Solomon, Celestial, Napoleon, Narcisse, Gen. Mercier, &c., 30 varieties, at \$2 per dozen. Cloth of Gold, Lady Tulford, Reine d'Or, 50 cents each.

New Cinerarias. Cerito, Nymph, Resplendens, Adile, Villiers, Edmondiana, Apollo, Beauty of Flushing, Climax, Beauty of Newington, Joan of Arc, \$4 per dozen.

New Petunias. Eclipse, Prince of Wales, Enchantress, Beauty of Stow, North London, Madonna, \$4 per dozen. Older sorts, as Alice Peel, Yorkville Beauty, Beauty Parfait, Grandiflora superba, &c., \$2.50 per dozen.

Cape Bulbs, &c. *Ixia maculata*, Sessleyi, Pheasant's Eye, cros-cata, polystachya rosea—*Iris pavonia*, hybrida, crateroides, alba, longifolia, viridis, columnaris, fusca flava—*Oxalis speciosa*, Bowei, bifurcata, versicolor, niven—*Lachenalia tricolor*, and others—*Hernanthes*—pubescens—*Gladiolus pudibundus*, formosissimus, &c., at \$3 per dozens, in pots.

Roses. The best Tea, China, Noisette, Bourbon, Hybrid Perpetual and Climbing Roses, from \$3 to \$5 per dozen. Fortune's 5 Colored Rose, (new,) \$1.00. Fortune's new double Yellow Climbing Rose, \$1.

Prairie Roses, in 16 superb varieties, at \$1 per dozen sorts—*Cestrum aurantiacum*, a superb plant for the border or the Green-house, 50 cents—*Adamia versicolor*, 50 cents—*Abutilon Bedfordianum*, 50 cents—*Luci da rosea* Geranium, 50 cents—*Heliotrope Voltairianum* and *Souvenir de Leige*, 25 cents—*Habrothamnus corymbosus*, 50 cents—*Lobelia fulgens insignis*, 50 cents—*Plumbago Larpentæ*, 37 cents—*Veronica Andersonii*, 50 cents—*Veronica Lindleyana*, 25 cents—*Salvia splendens major*, 25 cents—*Maurandia alba*, 25 cents—*Lauschneria Californica*, 25 cents—*Tetralthea verticillata*, 75 cents—*Torrenia concolor*, 37 cents.

Camellias, Heaths, Azaleas, Cactus, Salvias, &c., of the most desirable sorts, for the Parlor or Green-house.

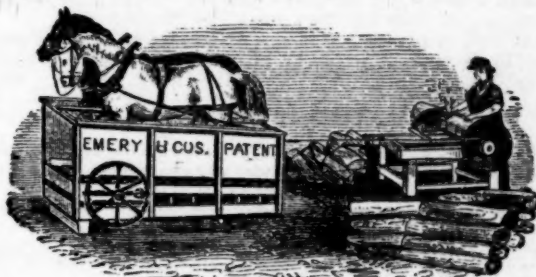
Herbaceous Plants, Pinks, Carnations, Phloxes, Forget-me-not, Lily of the Valley, White Lillies, &c., at low rates.

A **Priced Catalogue** for this autumn is now ready, and will be sent post-paid, on application.

B. M. W. offers his service in laying out and planting the grounds of Country Residences, Public Gardens and Cemeteries, in any part of the country. In this climate, where the spring is so short, if considerable planting is required, the work should be commenced in the autumn. Every description of plants can be furnished, grown under his immediate supervision, including all the novelties, at the lowest rates. Oct. 1, 1851—11.

Prince's Linnæan Botanic Garden and Nurseries.

W. M. R. PRINCE & CO., Flushing Long Island, offer their select and unrivalled Collection of Fruit and Ornamental Trees, Shrubbery, Bulbous and other Flowering Plants, and Green-house Plants. The stock of Standard and Dwarf Pears, and of all other Fruit Trees, is very large. 100,000 Evergreen Trees, comprising every variety. 25,000 Roses, of the choicest Daily, Perpetual, and Moss varieties. 100 splendid varieties of Pæonies, 10,000 Grape-vines of the finest kinds, and all the new and superior Strawberries. Descriptive Catalogues, with reduced prices, will be sent to post-paid applicants. Oct. 1—21.



EMERY & CO.'S

New-York State Society's First Premium RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of the materials and workmanship; we have now so extended our facilities as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats, per day.

| | |
|---|---------------|
| The price for Emery & Co.'s one Horse Power,... | \$85.00 |
| do do Threshers and Separator, .. | 35.00 |
| do Bands, wrench, oiler and extra pieces,... | 5.00—\$120.00 |
| do Two Horse Power, | 110.00 |
| do do Thresher and Separator, | 35.00 |
| do Bands, oiler, wrench, &c., | 5.00—\$150.00 |

Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,

do Saw Mill, complete for use,

Price of Grant's Fan Mills, adapted for hand or power from.....

Also Wheeler's Rack and Pinion Power, manufactured by ourselves.

One Horse Power,.....

Two Horse Power,.....

All the above are subject to the warranty of three months use and trial, and if not satisfactory may be returned and full purchase money refunded.

Individuals wishing EMERY & Co.'s Latest Improved Premium Horse Power, will be careful to observe that their name is cast in full on every link of chain and the wheel hub.

For further particulars see illustrated Catalogue, furnished gratis on application to

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, Nos. 369 and 371 Broadway, Albany, New-York.

The proprietors will exhibit their machines at the Ohio and Michigan State Fairs, to be held at Columbus and Detroit, this fall, and be prepared to take and fill orders.

AGRICULTURAL IMPLEMENTS.

G. W. GIRTY.] Girty & Elliott, Cleveland, [F. R. ELLIOTT.

KEEP constantly on hand and for sale, the largest collection of Agricultural Implements in the Western States. Every new pattern and improved implement is obtained and offered for sale as soon as manufactured. Farmers need have no occasion to send East for we can furnish everything desirable that is contained in any Eastern collection. Cleveland O., Sept. 1—2t.

FOR SALE.

FULL Blood Shanghai Fowls, from a stock imported in the ship Canada, direct from Shanghai in February last. All orders promptly executed. WM. BULL, Plymouth, Ct. Sept. 1—2t.*

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geared, for one and two horses. These have never been equalled by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto. A. B. ALLEN & CO., March 1—1f. 189 & 191 Water street, New York.

TO FRUIT GROWERS.

FOR SALE by the subscriber, an extensive assortment of the best varieties of the Pear, Apple, Plum, Cherry and other Fruit Trees; also Ornamental Trees, Shrubs, Evergreens, &c. &c.

Tulips in upwards of 200 choice varieties. 50,000 Buckthorn plants for hedges, one, two, and three years from the seed.

Pear trees in a bearing state, and extra sized fruit trees, always for sale. Purchasers are invited to call and make their own selection. Sept. 1—2t. SAMUEL WALKER, Roxbury, Mass.

PARKER & WHITE,

MANUFACTURERS of Garden Implements and Farm Machines, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—1f.

Apple Trees for Orchards,

For sale at the Nursery of J. J. THOMAS, Macedon, N. Y.

MANY thousand trees of large size, (mostly 7 to 9 feet,) and of handsome and thrifty growth, including the best standard sorts, and the best new varieties, and

All Propagated from Bearing or Proved Trees,

are offered for sale the present autumn, at Fifteen Dollars per hundred, or sixteen dollars if securely packed in wet moss and bound in strong mats, and delivered at canal or railway. The best selection of sorts will be made by the proprietor, in all cases where purchasers desire.

Also, an excellent assortment of proved and genuine Peach, Cherry, Plum, Pear, and Apricot Trees, Raspberries, Strawberries, &c., add a carefully selected collection of the finest Ornamental Trees, Shrubs, Hardy Roses, and Herbaceous Perennial plants.

All orders, accompanied with remittances, and directed Macedon, Wayne co., N. Y., will be carefully and promptly attended to. Sept. 1—2t.

New Staminate Strawberry.

WALKER'S SEEDLING.

THIS new variety of the Strawberry is for sale and will be sent out, to applicants in the spring of 1862, price one dollar per dozen. Orders may be addressed to Samuel Walker, Roxbury, or to Mr. Azell Bowditch, at the Massachusetts Horticultural Seed Store, School Street, Boston.

The Fruit Committee of the Massachusetts Horticultural Society, report of the variety as follows:—"WALKER'S SEEDLING;" this strawberry has now been fruited three years; it is a dark colored berry, of good size, a very abundant bearer, of high flavor, very fine quality, and it will be, it is believed an acquisition. It is a staminate, worthy, as the committee think, of an extended cultivation. Boston, June 28th, 1851.

Fruit, Ornamental and Evergreen trees, shrubs, &c., for sale at the nurseries of SAMUEL WALKER, Roxbury, Mass. Sept. 1—6t.

PREMIUM STRAWBERRIES.

WM. R. PRINCE & CO., Linnaean Botanic Garden and Nursery, Flushing, near New-York.

THE following varieties, and others, at reduced rates, by the dozen or hundred, and Descriptive Catalogues sent to all post-paid applicants.

Charlotte, Crimson Pine, Primate, Profuse Scarlet, Primordian, Hovey's Seedling, Burr's New Pine, Iowa, Crimson Cone, Black Prince, Taylor's Seedling, Prolific Swainstone, Lizzie Randolph, Eustatia, Montevideo Pine, Brilliant, Cornucopia, Le Baron, Refulgent, Theresa, Unique Scarlet, Unique Prairie, Old Early Scarlet, Serena, and the Alpine varieties. W. R. PRINCE & CO. Sept. 1851—2t.

Fruit and Ornamental Trees, at Cleveland, Ohio.

GIRTY & ELLIOTT.

THE collection of trees offered for sale by us this fall, has been selected and grown with great care. It embraces a large variety, including all the best varieties of Fruits; as well as all the new Shrubs, Roses, Evergreens, &c., &c., that have been brought into notice for a few years past.

Standard Pears of one, two and three years growth.

Dwarf do do do do

Standard Apples, do do do do

Dwarf do do do do

Standard Cherries, do do do do

Dwarf do do do do

Plums, Apricots, Nectarines, Peaches, Grapes, Currants, Raspberries, Strawberries, Gooseberries, &c., &c.

EVERGREENS.

Of Norway Spruce, Deodar Cedar, Cedar of Lebanon, Tree Box, English Yew, Auricular Pines, and Balsam Firs. Our stock is very good, and among them many of extra large size. All the new Pines, Spruces, etc., etc., are on hand, and for sale, of common sizes.

15,000 Balsam Firs, small—20,000 American Arbor Vitae, small—1,500 yards Dwarf Box, for Border Edgings, very fine and thick.

Hardy Azaleas, Rhododendrons, Kalmias, &c.

ROSES.

A very large collection of Roses, and nearly all grown on their own roots, comprising the best selections of Remountants, Bourbons, Chinas, Teas, Moss, and climbing varieties.

Green-house plants in variety, and at low prices. Catalogues will be issued, ready for delivery, on the 1st of September, and forwarded gratis to post-paid applicants. GIRTY & ELLIOTT. Sept. 1—3t.

Superior Cultivated Bell Cranberry Plants.

THIS new variety of the Cranberry, grown and cultivated upon ordinary upland, is intended expressly for garden and field culture, being extremely hardy, vigorous and productive well suited to almost any soil and location.

The vines can be sent to any part of the United States in the root, carefully packed in boxes at \$7 per thousand and can be furnished growing in ornamental pots forming a beautiful ornament for the window, garden, or Greenhouse. Price \$2 per pot.

Persons wishing for plants should order previous to the first of October next. Full printed directions accompany the plants.

Circulars giving full information, or specimen plants sent gratis, to all post paid applicants. Address F. B. FANCHER, Gen. Agent., Sept. 1—2t.* Horticulturist, Lansingburgh, New-York.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO., Aug. 1—1f. No. 197 Water street, New-York.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, Newton, Mass., to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghai—Forbes stock.

Imperial Chinese—Marsh stock.

Cochin China—Coffin do

White Shanghai do do

Black Shanghai do do

Golden Poland, or Spangled Hamburg.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to No. 5 Congress Square, Boston, will be promptly executed.

Reference to Mr. J. VAN DUSEN, of Cincinnati, Ohio, who will take orders for Fowls, as advertised above. Boston, Aug. 1, 1851—12t.

Patent Wheel Cultivator,

ONE of the most useful implements on the grain farm for summer following, preparing grain land, and putting in grain; price with 9 teeth, \$30.

PATENT GRAIN DRILLS—of the most approved construction for 7 to 11 teeth—prices, from \$50 to \$100. EMERY &

SEED WHEATS.

GOLDEN Australian, White Soules, Beaver Dam, White Flint, White Chaff Bearded and Mediterranean Seed Wheat, selected with care from fields where but the one variety was grown. For sale by
GIRTY & ELLIOTT,
 Sept. 1—2t. Cleveland, Ohio.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. have the pleasure to announce to their patrons and the public in general, that their stock of **FRUIT AND ORNAMENTAL TREES, SHRUBS, &c.,** which they offer for sale the coming autumn, is of the very best quality; and embraces everything in their line that can be procured in the trade.

Dealers and planters of trees on a large scale, will be treated with on as liberal terms, as can be done by any establishment of reputation in the country; they flatter themselves that for correctness of nomenclature of fruits, (which is a serious consideration to planters) that their stock is as nearly perfect as can be, having all been propagated on their own grounds, from undoubted sources, under the personal supervision of Mr. Saul.

They have propagated in large quantities, all the leading and standard varieties, which are proved to be best adapted for general cultivation, especially those recommended by the American Pomological Congress, at its several sessions, as well as all novelties, and certain kinds particularly suited to certain sections and localities of the Union, and the Canadas.

Their stock of Pear trees is the largest they have ever had to offer for sale, and among the largest in the country, and consists of over 50,000 saleable trees.

The stock of Apple trees is also very large, as well as Plums, Cherries, Apricots, Peaches, Nectarines, and Quinces, also Grape-vines, Gooseberry, Currant, Raspberry, and Strawberry plants in great variety, &c. &c.

Also Pears on Quince, Cherry on Mahaleb and Apple on Paradise stocks, for pyramids and dwarfs for garden culture, and of which there is a choice assortment of the kinds that succeed best on those stocks.

Deciduous and Evergreen Ornamental Trees and Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of extra size; such as Sugar and Silver Maple, Chinese Ailanthus, Horse Chestnut, Catalpa, European and American Ash, Upright lentiscus leaved Ash, Upright gold barked Ash, Flowering Ash, Three Thorned Acacia, Kentucky Coffee, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Auracaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews, Arborvitae, &c.

WEeping TREES.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, gold barked Weeping Ash, Weeping Japanese Sophora, Weeping Elms (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Purple and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, Climbing and Garden Roses in great variety; such as Hybrid Perpetuals or Remoutants, Hybrid China, Hybrid Bourbon, Hybrid Damask, Hybrid Provence, Bourbon, Tea, China, Noisette and Prairie Roses; also Herbaceous plants in great variety, &c. &c., for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post-paid applicants.

A large quantity of Arborvitae for Screens, and Buckthorn and Osage for Hedge plants.

Newburgh, Sept. 1, 1851—2t.

To Farmers, Gardeners and Nurserymen.

THE Lodi Manufacturing Co. offer for sale a freshly prepared article of Poudrette for fall use. It will be found a cheap, handy and lasting manure upon grass preceded by wheat or rye, also upon turneps, celery, &c. It has been found of great use upon lawns as a top dressing, and grass lands generally. It has also received great commendation for its efficacy upon trees and shrubs, particularly Evergreens and ornamental trees. Reference is made to A. J. Downing, Esq., B. M. Watson, Plymouth, J. M. Thorburn & Co. and others—also to the following letter:

Extract from a Letter of Hon. Daniel Webster, dated

WASHINGTON, March 19, 1850.

"If I neglect the annual purchase of some of this article, my gardener is sure to remind me of it. He thinks it almost indispensable, within his garden fence; but there are uses, outside the garden, for which it is highly valuable, and cheaper, I think, than any other manure, at your prices. A principal one, is the enrichment of lawns and pleasure grounds, in grass, where the object is to produce a fresh and vigorous growth in the spring. Our practice is to apply it when we go to town in the autumn, and we have never failed to see its effects in the Spring."

Price of Poudrette \$1.50 per bbl. for any number over six barrels—and of Poudrette for shrubs, \$2.00 per bbl. for any quantity—in both cases delivered free of cartage on board of vessel in New-York.

Five shares of stock for sale in the Lodi Manufacturing Co. Dividend payable in Poudrette. Apply to the Lodi MANUFACTURING COMPANY, 74 Cortlandt st., New-York.

Sept. 1—2t.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, PROFESSOR OF SCIENTIFIC AGRICULTURE.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from \$2 to \$3 per week, and the Ticket for the Lecture is \$10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is \$25.

To those students who go through the full Laboratory course, the charge is about \$200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. JOHN P. NORTON, New-Haven, Conn. June 1, 1851—St.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are now prepared to supply Agriculturists with the above named tiles of the most approved patterns.

| | | |
|----|---|--------|
| 2 | inch pipes, one foot in length, per thousand, | \$9 00 |
| 2½ | do do do do do | 10 00 |
| 3 | do do do do do | 12 00 |

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices. The establishment is at Latourette's Point, Fresh Kills, near Richmond, Staten Island, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.
 The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.
 Staten-Island, Aug. 1—tf.

DRAIN TILE WORKS, ALBANY.

60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from \$14 to \$20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article. July 1—4t.

A. S. BABCOCK & CO., Albany.

FARM FOR SALE.

THE subscribers offer for sale the farm, late the property of, and now occupied by Mr. Charles Van Eps, in the town of New-Scotland, Albany county. The farm is located about three-fourths of a mile southerly from the New-Scotland Church, and about seven miles from the city of Albany, by a good road. It contains one hundred acres of land, of the very best quality for grass or dairy purposes. It is a good grain farm, but is peculiarly adapted to grass. It lies well and handsomely, as to exposure, roads, water, &c. It is all in a state of cultivation except a few acres of wood necessary for the farm; there is not three acres of waste land on it. The house is commodious and comfortable. The other buildings and fences are not as good as the farm would warrant, but are sufficient in number and size, and in tolerable repair. The premises will be sold in fee—free from quit or rent. Title good and terms easy. For further particulars, address either of the subscribers.

J. D. DEGRAFF, Fonda,
 D. C. SMITH, Schenectady.

August 1—3t

Executors of John J. Degraff, deceased.

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NOW READY.

PARSONS & CO.'S Catalogue of Roses and Exotic Plants, for sale the ensuing autumn and spring, comprising the new genera and species recently introduced from Europe, and now sent out for the first time. The Catalogue of Fruit and Ornamental Trees, hardy Shrubs, Vines, &c., including all the new and rare Pines and other conifers, with various new trees and shrubs, selected by one of the Proprietors in Europe, will be ready about the 15th inst. They will both be sent gratis to all applicants who prepay and enclose a postage stamp. Address **PARSONS & CO.,** Oct. 1.—11. Flushing, near New-York.

Rochester Commercial Nursery,
Established 1830.

THE attention of the public is invited to our large stock of fruit and ornamental trees, shrubs, green-house plants, &c., &c., all of which have been carefully cultivated and are warranted correctly named.

Particular attention has been paid to the propagation of the very best standard fruits, and we are confident that we can fill any orders for these, however large.

We do not boast of the size of our Catalogue, but of the number and beauty of our trees.

An extra quantity of cherry seedlings on hand, of one year's growth. **BISSELL & HOOKER,** Oct. 1.—21. Rochester, N. Y.

Fruit and Ornamental Trees.

THE subscribers would beg leave to give notice to dealers and others purchasing Pear Trees, that their stock is remarkably well grown this season, and will be very strong and fine for the fall sales, and is as extensive a collection of saleable trees as can be found at any other nursery in the country. The collection grown on Quince stock is also very fine.

The stock of Apple Trees will also be very large this fall, in lots to suit purchasers.

Plums.—A general assortment of the most leading kinds. Cherries, Apricots, Peaches, Grape-vines, Gooseberries, Currants, with other small Fruits, at the lowest market prices.

Ornamental Trees, being also grown extensively, can be furnished by the hundred at very reasonable rates—European Linden, Mountain Ash, Scotch Elms, English Elms, Horse Chestnuts; with a good collection of Roses, &c. Catalogues will be forwarded to all applicants. **WILSON, THORBURN & TELLER,** Nurserymen, 492 Broadway, Albany. Oct. 1.—11.

Dana's Muck Manual.

JUST published, by JAS. P. WALKER, Lowell, Mass., a new, revised, and greatly enlarged edition of the **MUCK MANUAL FOR FARMERS,** by Dr. SAMUEL L. DANA. The increased size of the work, (345 pages,) compels the publishers to put the price at 87 cts. in paper, (and not 75, as advertised a few weeks since,) and \$1.00 in neat cloth. For sale in Albany, by Messrs. E. H. PEASE & Co.; in New-York, by Mr. C. M. SAXTON. Oct. 1.—31.

A very Desirable Farm for Sale.

I Offer to sell my farm of 230 acres, situated four miles south of the village of Oxford, Chenango county, N. Y., and near the river and canal. 250 acres of it are under high cultivation, and well and durably watered. The remainder is well timbered. The fences are chiefly stone, and in good repair. It has a large two story mansion, five large barns and sheds, in good repair. It is admirably adapted for a dairy, or for grazing and grain—and has a fine orchard of grafted fruit. The farm, for profit, health, and beauty of scenery, cannot be surpassed. It is fully supplied with farming tools and stock, and 130 tons of hay, all or either of which may be had with the farm. The farm can be conveniently divided. The title is perfect, price low, and terms easy. Apply to **G. VANDERLYN,** Oct. 1.—21. Oxford.

FARM FOR SALE.

ONE of the best grazing farms in Chautauque county for sale, at \$18 an acre. It contains about 220 acres, about 120 acres of which is under a good state of cultivation. The buildings and fences are good, and there is on it a good orchard of grafted fruit. A part of the purchase money can remain under a bond and mortgage for a term of years if desired. The title is perfect. For information inquire of **JOHN D. PATTERSON,** Oct. 1.—21.* Westfield, Chautauque co., New-York.

New-York Importers and Jobbers.

FREEMAN, HODGES & CO.,

58 Liberty street, between Broadway and Nassau-street, near the Post-Office, New-York.

WE are receiving, by daily arrivals from Europe, our Fall and Winter assortment of rich fashionable fancy silk and millinery goods.

We respectfully invite all cash purchasers thoroughly to examine our Stock and Prices, and, as interest governs, we feel confident our Goods and Prices will induce them to select from our establishment. Particular attention is devoted to Millinery Goods, and many of the articles are manufactured expressly to our order, and cannot be surpassed in beauty, style and cheapness.

Beautiful Paris ribbons, for Hat, Cap, Neck, and Belt.

Satin and Taffeta ribbons, of all widths and colors.

Silks, Satins, Velvets, and uncut velvets, for Hats.

Feathers, American and French artificial flowers.

Puffings, and Cap trimmings.

Dress Trimmings, large assortment.

Embroideries, Capes, Collars, Undersleeves and Cuffs.

Fine embroidered reviere and hemstitch cambric handkerchiefs.

Crapes, Lisses, Tarletons, Illusion and cap laces.

Valenciennes, Brussels, Thread, Silk, and Lisle thread Laces.

Kid, Silk, Sewing Silk, Lisle thread, Merino Gloves and Mitts.

Figured and plain Swiss, Book, Bishop Lawn and Jaconet Muslins.

English, French, American and Italian Straw Goods.

Oct. 1, 1851.—21.*

THE FRUIT GARDEN,

A TREATISE intended to illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, &c.; the laying out and arranging different kinds of Orchards and Gardens; the selection of suitable varieties for different purposes and localities; gathering and Preserving Fruits: Treatment of Disease; Destruction of Insects; description and uses of Implements, &c. Illustrated with upwards of 150 figures, representing different parts of Trees, all practical operations, forms of trees, Designs for Plantations, Implements, &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

"This book supplies a place in fruit culture, and that is saying a great deal, while we have the popular works of Downing, Thomas and Cole. Mr. Barry has then a field to himself, which he occupies with decided skill and ability."—*Prairie Farmer*.

"It is full of directions as to the management of trees and buds and fruit, and is a valuable and pleasant book."—*Albany Eve. Journal*.

"The work ought to be in every family in the United States."—*Ashtabula Sentinel*.

"The work is prepared with great judgment and founded on the practical experience of the author—is of far greater value to the cultivator than most of the compilations on the subject."—*N. Y. Tribune*.

"It is one of the most thorough works of the kind we have ever seen, dealing in particulars as well as generalities, and imparting many valuable hints relative to soil, manures, pruning and transplanting."—*Boston Gazette*.

"A mass of useful information is collected, which will give the work a value even to those who possess the best works on the cultivation of fruit yet published."—*Evening Post*.

"His work is one of the completest, and, as we have every reason for believing, most accurate to be obtained on the subject."—*N. Y. Evangelist*.

"A concise manual of the kind here presented has long been wanted, and we will venture to say that, should this volume be carefully studied and acted upon by our industrious farmers, the quantity of fruit in the State would be doubled in five years, and the quality too greatly improved. Here may be found advice suited to all emergencies, and the gentleman farmer may find directions for the simplest matters, as well as those which trouble older heads—the book will be found invaluable."—*Newark Daily Advertiser*.

This book can be sent by mail to any part of the United States. Just published by **CHARLES SCRIBNER,** Oct. 1.—31. 145 Nassau st., New-York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

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